2024 DS DANSUK SUSTAINABILITY REPORT

DS DANSUK

About This Report

Report Overview

DS DANSUK has published a sustainability report every year since 2021 to actively communicate with stakeholders on the status and performance of our sustainability management activities. This report is its fourth sustainability report, and it aims to transparently disclose its ESG management goals and strategies, performance, and activities.

Reporting Period and Scope

The publication date of this report is July 12, 2024, and the reporting period includes information from January 1, 2023 to December 31, 2023 (or the first half of 2024 for some results). Financial performance is based on K-IFRS, and non-financial performance includes information from all five major domestic plants (Sihwa Plant, Pyeongtaek Bio Plants 1 and 2, Gunsan Recycling Plant, and Gunsan Fine Chemicals Plant), excluding the Bio Jecheon Plant, which is not operational. For some data, information from all business sites is included. Cases requiring attention to the scope and boundaries of the report and any changes at the time of reporting are clearly indicated in separate comments for stakeholders' reference. Quantitative data include more than three years of information to allow long-term trends.

Reporting Standards

This report has been prepared in accordance with the amended Global Reporting Initiative (GRI) Standards 2021 and European Sustainability Reporting Standards (ESRS). To report on the major issues relevant to our industry, we follow the standards set by the Sustainability Accounting Standards Board (SASB). The financial information used in this report is based on consolidated financial statements. Furthermore, our goals, activities, and performance related to climate change align with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

Report Assurance

To ensure the reliability of the report, Control Union, an independent external assurance firm, has conducted an assurance engagement in accordance with the international assurance standard AA1000AS (V3). The results of the assurance engagement can be found in the Independent Assurance Statement in the Appendix of this report.

COVER STORY

The "DS" symbol has the meaning "Define Standard," featuring a molecular structure and image of our business activities. This design reflects DS DANSUK's identity and contributions to the circular economy.

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Interactive PDF Guide

This report is available as an interactive PDF that features clickable URLs and interactions between the pages.

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Business Overview

CEO Message

"Be Global Only One, Resource Circulation Company"
DS DANSUK is constantly innovating and challenging itself to create a sustainable future.

Dear valued stakeholders,

DS DANSUK thanks our stakeholders for their unwavering trust as we publish the fourth report on our sustainability efforts and achievements.

The year 2023 was a special year for DS DANSUK, marking a notable advancement in our sustainability management. We changed our company name to "DS DANSUK" to better reflect our commitment to becoming a global leader in the resource recycling business and made substantial investments to spearhead new eco-friendly ventures. Despite uncertainties in the business landscape, we achieved stable management results, including reaching 1 trillion KRW in sales through flexible business strategies and courageous execution. Additionally, by improving governance and internal processes, and achieving our goal of listing in the securities market, DS DANSUK secured growth momentum and laid the foundation for becoming a centennial company.

The business environment in 2024 includes complex uncertainties such as geopolitical risks, energy and raw material supply instability, and the impact of high interest rates amid tight monetary policies. DS DANSUK will not rest on its existing growth strategies but will actively respond to these changes to overcome challenges and create opportunities. We aim to set new standards in the global market for new businesses such as hydrotreated vegetable oil (HVO), while continuing to invest in facilities and R&D as well as embed ESG management to ensure our future competitiveness.

To address the rapidly changing climate crisis, DS DANSUK is committed to carbon neutrality, energy transition, and resource circulation. Our company is expanding and pivoting on our existing businesses to create green value, while also proactively pursuing new ventures that comply with global environmental regulations. By 2024, these efforts will become more visible with the operation of the lithium ion battery (LIB) recycling plant as well as the development of NCM precursors and LFP cathode materials using recycled resources.

With the completion of our subsidiary's automated PCR plastic-sorting plant, we are extending our operations into the plastic recycling sector. Later this year, we plan to complete the HVO pre-treatment unit (PTU) facility to be part of the bioenergy business and to begin producing Pre-treated oils. These initiatives show DS DANSUK's efforts to support the energy transition and a circular resource economy.

DS DANSUK has made extensive efforts in the non-financial areas of the environment, society, and governance. Currently, the company is enhancing energy efficiency and reducing greenhouse gas (GHG) emissions at our business sites through self-sustaining renewable energy projects. We are also strengthening our environmental management capabilities through systematic organizational operations. Moreover, to ensure comprehensive ESG management, we are preparing a long-term vision by establishing policies and implementation plans across the ESG spectrum, including the supply chain. Our goal is to cultivate a corporate culture that aligns with global standards.

DS DANSUK will continue to pursue sustainable management and maintain honest communication to meet stakeholders' trust and expectations. We invite you to observe our innovations and challenges, and sincerely ask for your warm interest and support.

Thank you.

DS DANSUK CO., LTD.
CEO and Chairman **Seung-uk HAN**

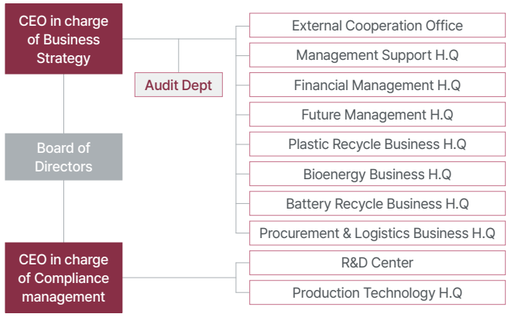
About Us

General Status

DS DANSUK is a leading sustainable energy and materials company specializing in bioenergy, batteries, and plastic recycling, pioneering business innovations based on a circular economy. By utilizing resource recycling technologies and leveraging our accumulated expertise, we can contribute to overcoming the global climate crisis. DS DANSUK is focusing on enhancing its business portfolio, including HVO, sustainable aviation fuel (SAF), lithium ion battery (LIB) recycling, secondary battery material development, and post-consumer recycled (PCR) plastics. Moving forward, we aim to strengthen our unique technology and expertise, respond proactively to market changes, and prioritize stakeholder satisfaction to ensure corporate sustainability and growth momentum.

Company Name	DS DANSUK CO., LTD.
Established Date	July 1, 1965
CEO	Seung-uk Han, Jong-woan Kim
Number of Employees	416 (as of December 31, 2023)
Location	• Sihwa Head office - 165, Hyeomnyeok-ro, Siheung-si, Gyeonggi-do • Seoul Office - Seogo Building 6th Floor, 18, Saimdang-ro, Seocho-gu, Seoul
Website	http://dsdansuk.com
Business Areas	• Bioenergy – Bio diesel, Bio heavy oil, Bio marine fuel • Battery recycling – Recycled lead, Copper casting, LIB recycling • Plastic recycling – PVC stabilizer, Layered double hydroxide (LDH), PCR plastic
Listed Date	December 22, 2023 (KOSPI)

Organization



Financial Performance

(Consolidated)

Assets
718.9 Billion KRW

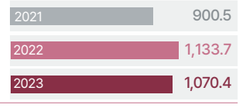
Liabilities
437.7 Billion KRW

Capital
281.2 Billion KRW

Net Income
39.2 Billion KRW

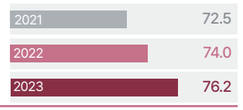
Revenue
1,070.4 Billion KRW

Unit: 1 Billion KRW



Operating Profit
76.2 Billion KRW

Unit: 1 Billion KRW



Domestic/Overseas Revenue

Domestic	Overseas
558.8 Billion KRW	452.1 Billion KRW

(Separated)

2023 Revenue by Business Sector

Unit: 1 Billion KRW

Bioenergy	Battery Recycling	Plastic Recycling
714.9	226.5	69.5

DS Brand

Management Philosophy

DS DANSUK has embedded its unique value system into its corporate culture based on its founding philosophy rooted in entrepreneurship. By fostering a company-wide consensus to achieve the main objective (mission), all employees understand and pursue the values of DS DANSUK, continuously striving for innovation and challenges. By fulfilling its role and responsibilities as a company dedicated to realizing a sustainable society, DS DANSUK aims to create virtuous cycle values and move forward as a leading enterprise in sustainability.

Spirit
A company should keep developing and contribute to society.

Mission
Contribute to human happiness and the improvement of quality of life by creating unique values with eco-friendly technologies and creative thinking.

Core Values

- Innovation — Pursuing new ideas, proactively embracing change
- Challenge — Not afraid of failure
- Passion — Creating better value
- Sympathy — Aiming for a common goal

DS DANSUK Value Chain

Leading company in bioenergy	Leading company in the eco-friendly circular economy	Establish 2050 Net-Zero roadmap
DS DANSUK contributes to carbon reduction through its bioenergy business by producing green fuels such as bio diesel, bio heavy oil, and bio marine fuel. In the future, we aim to establish a next-generation bio diesel(HVO) plant and supply sustainable aviation fuel (SAF).	DS DANSUK operates plastic recycling and battery recycling businesses by recycling waste, discarded resources, and industrial by-products. By offering our unique circular recycling solutions to the market, we aim to ensure corporate sustainability and contribute to the global circular economy.	DS DANSUK recognizes the severity of climate change and, as a corporate citizen, actively responds by developing and implementing strategies for reducing GHGs and conserving energy. Through these efforts, we aim to practice carbon-neutral management.

VALUE DELIVERY

Customers	Employees	Partners	Local Communities	Shareholders and Investors
Pursue customer satisfaction by providing high-quality, eco-friendly products that meet the needs of our clients and industries.	Secure HR competitiveness through fair evaluation and compensation, tailored talent development, and employee skill enhancement.	Support the formation of long-term, win-win partnerships and establish a responsible supply chain within the value chain.	Address social issues and promote development through broader social contribution activities and investments in local communities.	Enhance shareholder value by advancing the business structure and generating profits based on ESG management.

History

DS DANSUK

1965~1994 Birth

1965
- Founded Novel Industry Company
- Developed and manufactured manganese sulphate

1969
- Developed and manufactured cuprous oxide and copper oxide

1973
- Developed and manufactured red lead and litharge

1982
- Designated as a Priority SMEs* for Modernization and Development

1984
- Developed and manufactured PVC stabilizers
- Established Novel Industrial Co., Ltd.
- Acquired KS Certification for red lead

1989
- Renamed to Dansuk Industrial Co., Ltd.

1993
- Established affiliate Dongyoon Industrial Co., Ltd (now DS Metal Materials)

1995~2004 Growth

1995
- Relocated to Sihwa Plant
- → Secured modern production infrastructure and research facilities

1996
- Selected as the 'Proud SMEs*' by the Ministry of Trade, Industry, and Energy

1999
- Awarded Minister's Award for Productivity (R&D) by the Ministry of Trade, Industry, and Energy
- Designated as the 'Excellent Productivity Improvement Enterprise'

2000
- Awarded the Presidential Award for Productivity Improvement

2001
- Obtained patent for electric manufacturing technology
- Certified as a Venture Company (New Technology Development Company)
- Constructed Fine Chemistry Plant
- Selected as a Superior Technology Company (Certification No. 1514, Dec 28, 2001, to Dec 31, 2006)

2005~2014 Development

2005
- Constructed a plant in the High-tech Industrial Development Zone, Hunan Province, China

2007
- Constructed bio diesel plant
- Established a glycerin production system

2011
- Constructed recycled lead plant (Soryong-dong, Gunsan-si, Jeonbuk State)

2012
- Completed the refined oil system

2013
- Constructed LDH plant (Osikdo-dong, Gunsan-si, Jeonbuk State)
- Achieved 100 million USD in exports

2014
- Constructed bio heavy oil plant

2015~ Leap

2016
- Commenced operation of bio diesel facilities at Pyeongtaek Bio Plant 2

2017
- Acquired affiliate Samil Innocom Ltd. (now DS Advanced Materials)

2018
- Commenced operation of bio diesel facilities at Pyeongtaek Bio Plant 1

2019
- Commenced operation of the Pakistan plant
- Acquired the Malaysia plant

2020
- Achieved 200 million USD in exports

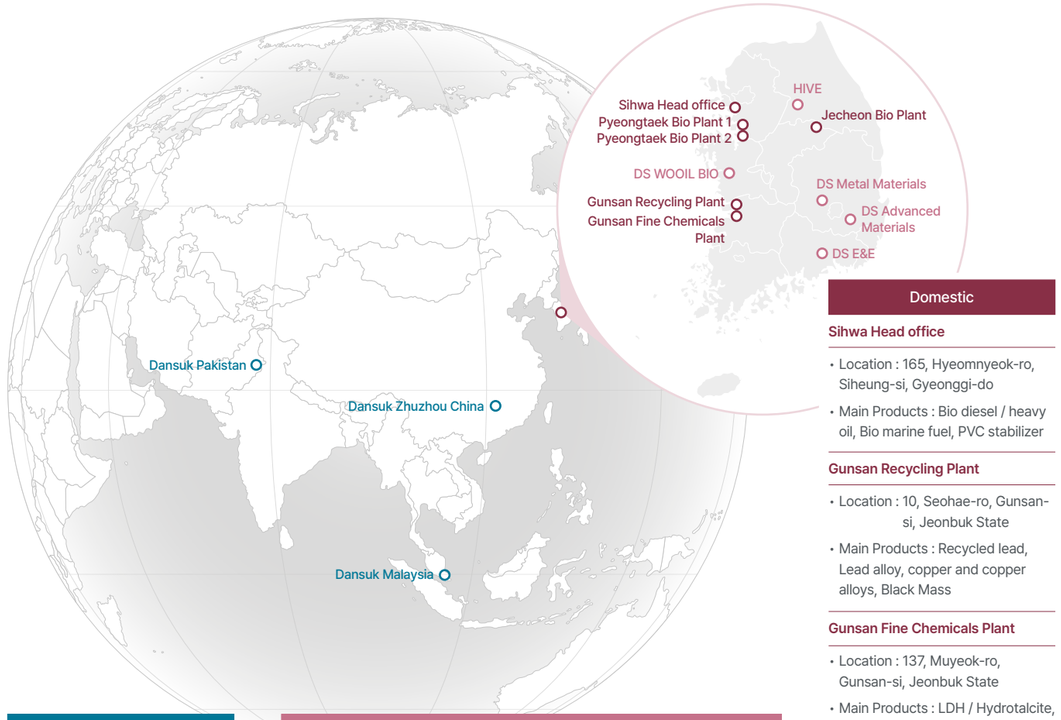
2021
- Commenced operation of bio diesel facilities at Jecheon Bio Plant

2022
- First export of bio-marine fuel (BMF) to Europe
- Achieved 300 million USD in exports

2023
- Began construction of the LIB Gunsan Recycling Plant
- Renamed to DS DANSUK Co., Ltd.
- Acquired shares in DS WOOIL BIO, DS E&E, HIVE
- Began construction of the HVO-PTU line at Pyeongtaek Bio Plant 1
- Listed on the Korea Stock Exchange (KOSPI)

*SMEs : Small and Medium-sized Enterprises

Global Network



Overseas

Dansuk Pakistan
- Location : Estate Raiwind Road, Lahore, Pakistan
- Main Products : PVC stabilizer

Dansuk Malaysia
- Location : 81700 Pasir Gudang, Johor, Malaysia
- Main Products : PVC stabilizer

Dansuk Zhuzhou China
- Location : 51 Yulu Industrial Park, Huanghe N Rd, Tianyuan District, Zhuzhou, Hunan, China
- Main Business : LDH trading and leasing

Domestic

HIVE
- Location : 52, Udusan-gil , Wonju-si, Gangwon State
- Main Products : Cooking oil

DS WOOIL BIO
- Location : 48-7, Jageunhansul-gil, Bibong-myeon, Cheongyang-gun, Chungcheongnam-do
- Main Products : Animal fat

DS Metal Materials
- Location : 25-4, Cheomdangieop 4-ro, Sandong-myeon, Gumi-si, Gyeongsangbuk-do
- Main Products : Litharge, etc.

DS Advanced Materials
- Location : 43, Ogyegongdan-gil, Geumho-eup, Yeongcheon-si, Gyeongsangbuk-do
- Main Products : EP compound, PCR plastic

DS E&E
- Location : 100, Wolchongong-dan-ro, Gunbuk-myeon, Ha-man-gun, Gyeongsangnam-do
- Main Products : Recycled plastic materials

Domestic

Sihwa Head office
- Location : 165, Hyeomnyeok-ro, Siheung-si, Gyeonggi-do
- Main Products : Bio diesel / heavy oil, Bio marine fuel, PVC stabilizer

Gunsan Recycling Plant
- Location : 10, Seohae-ro, Gunsan-si, Jeonbuk State
- Main Products : Recycled lead, Lead alloy, copper and copper alloys, Black Mass

Gunsan Fine Chemicals Plant
- Location : 137, Muyeok-ro, Gunsan-si, Jeonbuk State
- Main Products : LDH / Hydrotalcite, One Pack Stabilizer

Pyeongtaek Bio Plant 1
- Location : 216, Pyeongtaekhang-man-gil, Poseung-eup, Pyeong-taek-si, Gyeonggi-do
- Main Products : Bio diesel

Pyeongtaek Bio Plant 2
- Location : 11, Poseunggong-dansunhwan-ro, Poseung-eup, Pyeongtaek-si, Gyeonggi-do
- Main Products : Bio diesel

Jecheon Bio Plant
- Location : 39, Cheongpungho-ro 24-gil, Geumseong-myeon, Jecheon-si, Chungcheongbuk-do
- Main Products : Bio diesel

Business Portfolio

As global demand for GHG reduction and resource recycling to combat climate change increases, businesses must align their operations to ensure sustainability. DS DANSUK focuses on a circular economy-based business model that recycles resources after consumption. In response to global environmental regulations and industry issues, we have established a diversified business portfolio.
In response to global GHG reduction regulations in the transportation sector, the bioenergy business is proactively expanding its scope from vehicle and power generation biofuels to include marine and aviation fuels. In the battery recycling business, as the era of electric vehicles approaches, we are leveraging our existing capabilities in recycling waste lead-acid batteries to enter the LIB recycling market and promote the materialization of key raw materials. Additionally, the plastic recycling business is solidifying its leading position in the fine chemical industry, such as PVC stabilizers, by utilizing sorting and compounding technologies for waste plastics to manufacture and supply PCR plastics.

Bioenergy Business

DS DANSUK has secured competitiveness in biofuels by utilizing various waste resources and industrial by-products as raw materials and applying sustainable processing technologies. We have expanded our market beyond the domestic sphere by obtaining key certifications from major global environmental players such as International Sustainability and Carbon Certification (ISCC) in the EU and the US Environmental Protection Agency as well as by meeting the requirements of other states. Furthermore, we are proactively responding to industry trends by transitioning to HVO, a next-generation biofuel with higher raw material utilization than conventional bio diesel.

Competency of the Bioenergy Business

Largest Domestic Biofuel Production Capacity and Extensive Preprocessing Infrastructure

- Bio diesel Production Capacity of 300,000KL/year
- Each production plant has specialized refining and production processes to apply various raw materials and produce customized products
  → Use of raw materials such as used cooking oil(UCO), food waste oil, animal fats, and POME*

* POME: Palm Oil Mill Effluent

Raw Material and product storage infrastructure and global certification capabilities

- Utilizing 63 tanks with capacities ranging 1,000KL~13,000KL to manage quality and GHG reduction certifications for each raw material and product
- Enhancing product reliability and exploring overseas markets through obtaining and maintaining international certifications
  → digitalized traceability certification system

Largest bio diesel exporter in the country and Strategic market approach

- Maintained the 1st in bio diesel export market share since 2017 (approximately 70% cumulative share)
  → Ranked 3rd in the domestic market as of 2023
- Achieved largest domestic market share in bio heavy oil for the past 4 consecutive years

Bio diesel

Bio diesel is an renewable transportation fuel synthesized from waste cooking oil and animal and vegetable oils, unlike conventional diesel produced from crude oil refining. It exhibits a fuel performance similar to that of conventional diesel. By 2024, domestic bio diesel must be blended at 4% with transportation diesel fuel under the Renewable Fuel Standard. Consequently, DS DANSUK is striving to secure a smooth supply chain to meet increasing demand for bio diesel through strategies such as acquiring new clients and implementing bolt-on acquisitions.

Blend Ratio Mandated under the Renewable Fuel Standard

Year	2015.7~2017	2018~2021.6	2021.7~2023	2024~2026	2027~2029	2030~
Percentage (%)	0.5~2.5	3.0	3.5	4.0	4.5	5.0 → 8.0

* "Plan for Expanding Eco-Friendly Biofuels to Foster New Energy Industries in the Carbon Neutral Era," from Ministry of Trade, Industry, and Energy 2022. 10.

Features

Generally, replacing 1 KL of diesel with bio diesel reduces approximately 2.6 tons of GHGs.
Additionally, when used as a fuel, bio diesel does not produce SO_2 and reduces exhaust emissions, thereby enhancing its environmentalism.

Process and Usage

International Certifications

Compliance with international certifications and simultaneous export to the EU and US

EU

- UCOME[1], FWME[2], POMEME[3], BMF[4]
- ISCC-EU, DDC(Dutch Double Counting)
- Italy INS Certification newly secured

US

- UCOME, TME[5]
- EPA, California LCFS, Oregon CFP Greet 3.0

First in the country to obtain ISCC-CORSIA PLUS certification

1) UCOME : Used Cooking Oil Methyl Ester
2) FWME : Food Waste Methyl Ester
3) POMEME : Palm Oil Mill Effluent Methyl Ester
4) BMF : Bio Marine Fuel
5) TME : Tallow Methyl Ester

Bio heavy oil

DS DANSUK's bio heavy oil is supplied as a substitute for heavy oil (B-C oil) to fulfill the mandatory supply quantities of power generation companies under the Renewable Portfolio Standard. Bio heavy oil is a renewable energy produced from waste resources and by-products such as pitch, a by-product of bio diesel processing, animal fat and vegetable oil, food waste oil, and palm by-products.

Features

Bio heavy oil reduces particulate matter by approximately 28%, nitrogen oxides by 39%, GHGs by 85%, and sulfur oxides by 100% compared to B-C oil

Process and Usage

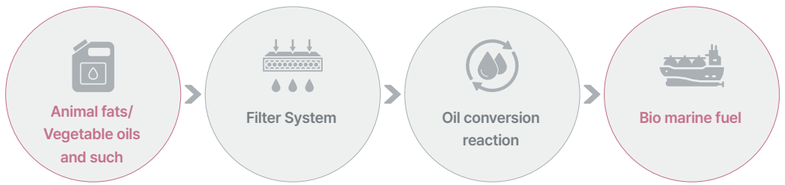
Bio marine fuel

Bio marine fuel contributes to reducing GHG emissions in the shipping industry and meets the stringent sulfur regulations set by the International Maritime Organization (IMO). It offers the advantage of promptly responding to the 2020 IMO regulation requiring sulfur reduction to 0.5% and ship operational carbon intensity indicator regulation. Consequently, demand for bio marine fuel is continuously increasing, particularly among global shipping companies. Specifically, DS DANSUK's bio marine fuel, advanced by proprietary technology, complies with international marine fuel standard ISO 8217. It is highly valued in the market due to its GHG reduction effects and fuel stability.

Features

Supply a variety of types of bio marine fuels, ranging from proprietary bio marine fuels that comply with international marine fuel ISO 8217 standard to marine bio diesel meeting EN 14214 standard, currently blended with VLSFO.

Process and Usage



Pre-treated oil (for HVO/SAF)

The aviation industry is moving toward adopting SAF to comply with environmental regulations such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) established by the International Civil Aviation Organization (ICAO). Pre-treated oil is a crucial raw material for producing bio-aviation fuels. DS DANSUK has invested in producing high-purity pre-treated oil (HVO-PTU) for the first time in the country, with full-scale production set to begin in the second half of 2024. By supplying this pre-treated oil to domestic and international oil refiners, we will contribute to global carbon reduction in the aviation sector and establish a foundation for entering the HVO market in the future.

Features

High-purity refined oil with impurities and metal components removed from raw materials such as vegetable oils.

Process and Usage

Sustainable Portfolio

With the tightening of GHG emission regulations, particularly in the US and EU, the SAF market is expected to expand significantly. This growth is anticipated with the emergence of the next-generation bio diesel (HVO) industry, which is known for its high raw material utilization. DS DANSUK is strategically pursuing a new HVO business as a sustainable growth engine. We aim to become a leading company in future bioenergy through proactive measures such as investing in HVO-PTU processes, securing new factory sites for expanding the HVO business, and obtaining ISCC-CORSIA PLUS certification.

The Emergence of Next-Generation Bio diesel (HVO)

Process Advancement (Hydrotreating and Isomerization Reactions)		Cost Aspect	Synergy Effect
Low sensitivity to the quality of raw materials, allowing for a broader application of raw materials	Same chemical structure as petroleum-based fuels → Easy to blend and low-temperature fluidity	Lower proportion of raw materials than conventional bio diesel	Production of HVO enables the acquisition of bio-aviation fuel and bionaphtha

Battery Recycling Business

DS DANSUK's battery recycling business has created a circular economy system for metal resources by collecting waste lead-acid batteries (waste batteries) generated globally and converting them into recycled lead, which is then supplied back to major battery manufacturers, both domestically and internationally. In addition, since 2023, we have begun the production of copper and copper alloys, expanding our business scope to provide comprehensive solutions for non-ferrous metals. Meanwhile, with the emergence of the electric vehicle era, lead-acid batteries are expected to continue growing because of their cost-effectiveness and excellent applicability to electrical equipment compared with LIBs. DS DANSUK is not complacent and is proactively pursuing the LIB recycling business in response to increasing demand for key raw materials for electric vehicles.

Competency of the Battery Recycling Business

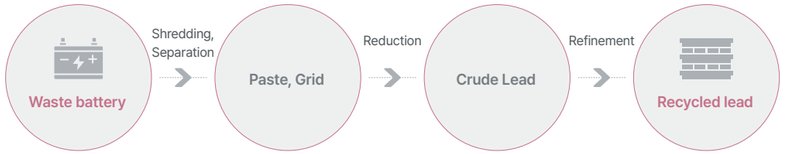
Establishment of a stable operating structure and profit generation in the recycled lead business	Expansion Potential in the Secondary Battery Recycling Business
• Secure a leading position in an industry with high entry barriers due to significant initial capital investment and strengthened environmental regulations • Competitive raw material procurement through a global network • Establishment of an Efficient Waste Lead-Acid Battery Recycling System	• Ensure operational stability in the LIB recycling business by leveraging experience in the recycled lead business and the waste battery supply chain • Possess technology and know-how for processing waste LIB and manufacturing Black Mass • Ease of business expansion through synergy with other business divisions → Secure premium product through the application of certification know-how → Develop materials based on existing fine chemistry technologies

Recycled Lead

Recycled lead refers to metal lead remanufactured through the processing of collected waste lead-acid batteries and it is primarily used as a raw material for manufacturing automotive batteries. Products from urban mining industries, such as recycled lead, contribute to efficient resource recycling and environmental protection, while offering economic benefits such as reduced raw material costs.

Features	Usages
• The purity of recycled lead is over 99.97%, identical to the characteristics of primary lead. • Owing to the low content of metallic impurities, there is minimal dross generation during the lead oxide and the lead-acid battery plate manufacturing process. • The excellent fluidity of the molten material facilitates the easy operation of the manufacturing process.	• Primary raw material for automotive batteries and various industrial batteries • Cable sheathing, radiation shielding, solder • Raw material for lead oxides (litharge, red lead)

Process



Lead Alloy

Lead alloy enhances the hardness of pure lead by adding antimony and tin to negate its softness. It is essential for creating terminals and bridges between the internal cells in automotive batteries.

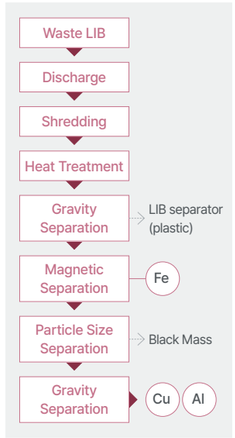
Features	Usages
• Capable of manufacturing custom lead alloy tailored to clients through the precise control of lead, antimony, and tin content	• Pole plates and connecting terminals of lead-acid batteries, etc.

Copper · Copper Alloy

Copper and copper alloys are functional (high-strength, high-conductivity) copper products manufactured through a continuous casting process using cathode and copper scrap as raw materials. DS DANSUK produces the following product range using electric induction furnaces. By 2024, we plan to expand the market by adding C1220 phosphorus-deoxidized copper, C2100 red brass, and C2700 brass products. Additionally, through continuous technological advancements, we plan to produce oxygen-free copper (with less than 10 ppm oxygen), which is used as a basic material in industries such as electronics, electric vehicles, and aerospace.

Products	Traits	Products	Usages
C1100 (Tough pitch)	Cu 99.90% Min	Billet	Busbar, switchboards, secondary battery anodes, etc.
		Slab	Wide heavy plates for busbars, sheet metals, etc.
C2680 Brass	Cu 65%, Zn 35%	Billet	Brass pipes, electrical and electronic switches and connectors
C7060 Cupro-Nickel	Cu 90%, Ni 10%	Billet	Nickel silver rod, marine/freshwater equipment, thermal/nuclear power generation

LIB Recycling - Shredding and Separation Process



LIB Recycling-Black Mass

In April 2024, DS DANSUK completed the construction of a waste LIB pre-treatment plant at the Gunsan Recycling Plant, enabling an annual production of approximately 5,000 tons of Black Mass. Black Mass, which contains active materials such as lithium and cobalt, is used by LIB manufacturers as a raw material for battery production. Additionally, DS DANSUK plans to leverage its Black Mass production capabilities and internalized technology to venture into the recycling NCM and LFP cathode material sectors. DS DANSUK aims to establish a proprietary circular structure to secure its competitiveness.

Sustainable Portfolio

Based on our technology and expertise, including our waste lead-acid battery recycling system and Black Mass production, DS DANSUK will expand its business from extracting secondary battery materials with LIB recycling to manufacturing materials such as cathode materials.

DS DANSUK	Precursor Company	Cathode Material Company	Secondary Battery Company	Consumers
• Shredding/ Separation • Hydrometallurgical extraction (Li, Ni, Co, Mn)	• Manufacture recycled precursor	• Manufacture Recycled cathode materials	• Manufacture LIB	• Consume Electronic devices and EV

Plastic Recycling Business

DS DANSUK is promoting the globalization of its PVC stabilizer business, while also pursuing the PCR plastic business for future growth. With advanced product customization capabilities, the PVC stabilizer business maintains a high market share through approximately 90 items, exporting to various countries in Asia, Africa, and the Middle East, as well as serving the domestic market. In response to the recent strengthening of plastic regulations, DS DANSUK is expanding its PCR plastic business through waste plastic sorting and compounding technologies.

Competency of the Battery Recycling Business

PVC Stabilizer	PCR Plastic
• Largest production scale and market share domestically by developing customer-tailored products, ensuring quality, and strengthening production facility competitiveness • Overseas production infrastructure (Pakistan, Malaysia) • Expanding global exports for LDH and others	• Capable of achieving over 99% purity through advanced waste plastic separation technologies, such as electrostatic and color sorting • Expertise in plastic compounding, including EP and PP • Foothold for international expansion through ISCC-PLUS and GRS certifications

Basic PVC Stabilizer

PVC stabilizers are classified into lead-based and non toxic categories, depending on the base raw material. DS DANSUK is the only domestic manufacturer of basic lead-based stabilizers. While demand for basic lead-based stabilizers is decreasing in the domestic market owing to the transition to non toxic alternatives, we maintain our sales market by exporting to overseas markets, including Southeast Asia, and utilizing overseas bases. Additionally, basic non toxic stabilizers (metal soap-based raw materials) are sold in the domestic and international plastic molding industries and in the polyolefin neutralizer market. These basic PVC stabilizers are also used as key raw materials in one pack stabilizers.

Category	Features	Usages
Basic Lead-Based Stabilizer	• An additive used as both a stabilizer and an activator with excellent thermal stability	• cable sheathing, pipes, fittings, and building materials
Basic Non Toxic Stabilizer	• A non-toxic additive with excellent activation properties	• PVC heat stabilizers, other activators, release agents, and neutralizers

One Pack Stabilizer

One pack stabilizer is a custom additive that inhibits the decomposition of chlorine during PVC molding and enhances thermal stability, thereby improving the physical properties of PVC-molded products. DS DANSUK secures competitiveness through the vertical integration of its business structure by producing and using basic lead-based and non toxic stabilizers as well as LDH as raw materials for one pack stabilizers. In addition, one pack stabilizers are continuously being developed to meet customer requirements and align with country-specific trends, thus expanding the market through technological advancements and the introduction of new stabilizers.

Features	Usages
• Provides custom additives that meet the processing characteristics required by customers • Prevents physicochemical deformation and improves processability during PVC thermal processing (extrusion, injection molding) • Enhances weather resistance by preventing the oxidation and thermal degradation of molded products	• Window Profiles • Cables & Compounds • Pipes & Fittings • Mold extrusion

Hydrotalcite/LDH(Layered Double Hydroxide)

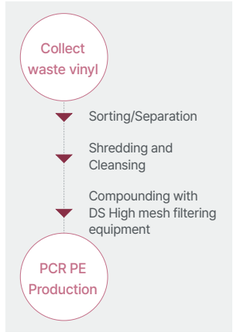
Hydrotalcite is an LDH composed of magnesium hydroxide and aluminum hydroxide plate layers with carbonate ions (CO3-2) and crystalline water in between. It is used with various types of resins and other additives to enhance their physical properties and stability. DS DANSUK has developed its own mass-production process and has the largest hydrotalcite production capacity in the country. DS DANSUK focuses primarily on the Chinese market, which accounts for over 80% of global spandex production, while continuously exploring new markets.

Features	Usages
• Composed of magnesium hydroxide and aluminum hydroxide, being non-toxic • Excellent anion exchange capacity, preventing the degradation of PVC and providing superior chlorine resistance in spandex fibers • High dispersibility and transparency within polymer resins through nano-sized particles and surface modification	• PVC heat stabilizer, catalyst neutralizer, anti-chlorine agent, flame retardant, etc. 

PCR Plastic

PCR plastic is recycled plastic collected, sorted, and separated according to certain standards after use. DS DANSUK is accelerating its investment and commercialization efforts related to PCR plastics. Through its subsidiaries, we have established a resource circulation business structure that spans the sorting of waste plastics to produce products by compounding the sorted plastics. In DS DANSUK's battery recycling business, plastic by-products generated after the crushing and separation of waste batteries are used as raw materials for PCR plastics. As of May 2024, DS E&E expanded its resource circulation facilities, securing the capability to sort 15,000 tons of plastic waste annually. Additionally, DS Advanced Materials produces PCR plastic compounding materials (PP, PE, ABS, and HIPS) for use in electronics, textiles, and packaging products based on sorted waste plastics.

PCR LLDPE Process



Features	Usages
• Possesses automated sorting systems and physical recycling technology capable of sorting and separating mixed plastics to a purity of over 99% • Holds technology for compounding engineering plastics and general-purpose plastics based on PCR plastics	• Automobile components • Home appliances • Household goods 

Sustainable Portfolio

To expand its plastic recycling business, DS DANSUK aims to enhance its existing vertical integration structure and broaden its business scope into the high-performance PCR plastic market. In addition to expanding domestic PCR plastic production facilities and strengthening the recycling center network to enhance the supply chain, we will secure raw materials and sales markets by entering international markets.

Expansion of Plastic Recycling Business

Vertical integration for the plastic recycling business (collection, shredding, sorting, molding)	Advanced plastic sorting technology such as electrostatic and color sorting (99% purity)	Plastic compounding expertise	Foundation for global expansion through ISCC-PLUS certification

Our ESG Management

DS DANSUK Sustainable Management System

Sustainable Management Strategy with Our Vision

Through the establishment of our future vision in 2020, DS DANSUK is promoting company-wide management that emphasizes sustainability. In response to the increasing disclosure requirements and regulations related to ESG, particularly in developed countries, we have formulated a sustainable management system and strategy. From an internalization perspective, we are identifying opportunities and risk factors related to ESG issues by developing an integrated risk management system and refining governance standards. Additionally, each division is enhancing its execution capabilities by reassessing and identifying improvement tasks to integrate ESG management into its business processes.

Vision

D.S. 2025 Only One!

Digital Driven 2025 Smart Sustainability Only One

Create sustainable value through a digitally driven corporate culture and smart sustainability mindset to achieve the 2025 Only One innovation.

Sustainable Management Goals

4 Action Strategies

Advance Business Model	Eco-friendly & Smart Business Sites	Cooperation & Shared Growth	Strengthen ESG Governance
• R&D of new businesses and commercialization - Development of pre-treated oil and HVO (SAF) process technology - Develop LIB recycling, NCM precursor, and LFP cathode material technology - Manufacture custom PCR plastics • Diversify raw material use and procurement - Secure recycled / reused / waste raw materials - Strengthen partnerships in the raw material market • Enhance global market competitiveness - Certification of biofuels and expansion of export markets	• GHG Emission Management - Company-wide management and disclosure of GHG emissions trading scheme - Improve utility/energy efficiency to reduce GHG • Establish Smart Factories - Introduction of process automation and AI solutions - Advance process management systems • Enhance Environmental Management - Reestablish environmental management policies and guidelines - Improve environmental management (water quality/air/waste KPIs)	• Create a Sustainable Work Environment - Advance the health/safety management system - Pursue zero safety accidents • Advance HR Management - Establish and evaluate a human rights management charter - Develop a new performance evaluation system and improve HR training programs • Strengthen Collaborative Activities - Expand social contribution activities - Support collaborative partnerships and introduce ESG evaluations for partners • Develop and Supply Customer-tailored Products and Quality Management	• Enhance Transparency in Governance - Improve the independence, expertise, and diversity of the BOD - Expand governance activities centered on outside directors • Internalize Ethical and Compliance Management - Monitor the implementation of ethical guidelines and conduct regular training - Eliminate anti-corruption risks through compliance support • Integrated Risk Management - Operate the Audit Committee and internal audit organization - Enhance and inspect the internal accounting management system

Accomplishments

• Investment in HVO-PTU facilities and securing new business sites • Pursued a Bolt-on strategy in the raw material market • Established a foundation for entering new markets through MOUs for HVO pre-treated oils • ISCC-CORSIA PLUS certification • Completed LIB recycling plant (April 2024)	• Managed company-wide GHG emissions and participation in emissions trading scheme obligations • Introduced smart UCO refining processes (process automation) • Activities for reducing GHG and energy consumption (participation in support projects, etc.)	• Maintained zero serious accidents in the workplace • Established and operate a new performance evaluation system (enhancing performance assessments) • Strengthened educational programs, including workshops for new employees	• Enhanced the independence and capabilities of the BOD through the recruitment of outside directors • Strengthened anti-corruption activities through the appointment of compliance officers • Established and operate the Audit Committee • Stabilized and advanced the internal accounting management system

ESG Governance

To systematically manage the various ESG issues that may arise from business activities, we operate an ESG Sustainable Management Committee under the Board of Directors. This committee comprises the executives, key internal directors, and department heads from each division. The committee convenes biannually to regularly monitor industry and global ESG trends to determine agenda items. Through decision making and feedback within the committee, we establish the direction of ESG strategies and implement improvements. Additionally, significant ESG issues are presented to the Board of Directors, and stakeholder opinions are gathered and reported together to strengthen the decision-making function related to ESG management.

ESG Sustainable Management Committee Organization (2022~)

- **Board of Directors** — Highest Governance Body of ESG Management
- **ESG Sustainable Management Committee** — Reporting ESG Related Agendas / Advisory Body
- **External Cooperation Office** — Internal ESG Control Tower
  - Eco-friendly business models
  - Environment, health and safety
  - Social responsibility
  - Governance

ESG Sustainable Management Committee Main Activities

- Establish a Mid-to-Long Term ESG Roadmap and Advancement Strategy
- Identify ESG Opportunities and Risk Factors
- Monitor the Implementation of Detailed ESG Action Plans
- Lead the Internalization of an ESG Corporate Culture

※ Submit agenda items to the Board of Directors when needed

ESG Execution Framework

DS DANSUK operates its ESG Sustainable Management Committee to formalize sustainable management strategies and continuously promote tasks for each division. This committee is responsible for establishing ESG management strategies, making policy decisions, inspecting current issues, and managing risks. It operates as an advisory body (council), until it becomes a decision-making body. The External Cooperation Office functions as a dedicated ESG organization that responds to ESG evaluations, related disclosures, and other ESG management matters. In addition, it oversees DS DANSUK's overall ESG management activities and supports the smooth progress of each task.

ESG Improvement Process

Establish short, mid, and long-term strategies and goals → Review ESG policies and establish/implement improvement tasks → Enhance ESG data management and disclosure levels → Expand the scope of ESG management across the entire supply chain

ESG Highlights

ESG HIGHLIGHT

Joining UNGC

In June 2024, DS DANSUK joined the UN Global Compact (UNGC). Through this membership, we aim to support the Ten Principles of the UNGC, which cover human rights, labor, environment, and anti-corruption, and to use it as a foundation for promoting reliable ESG management. Going forward, DS DANSUK will actively pursue activities to enhance corporate sustainability based on the core values advocated by the UNGC.

The Ten Principles	
Human Rights	• Principle 01 : Businesses should support and respect the protection of internationally proclaimed human rights; and • Principle 02 : make sure that they are not complicit in human rights abuses.
Labour	• Principle 03 : Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; • Principle 04 : the elimination of all forms of forced and compulsory labour; • Principle 05 : the effective abolition of child labour; and • Principle 06 : the elimination of discrimination in respect of employment and occupation.
Environment	• Principle 07 : Businesses should support a precautionary approach to environmental challenges; • Principle 08 : undertake initiatives to promote greater environmental responsibility; and • Principle 09 : encourage the development and diffusion of environmentally friendly technologies
Anti-Corruption	• Principle 10 : Businesses should work against corruption in all its forms, including extortion and bribery.

SUSTAINABLE DEVELOPMENT GOALS

Biofuel - Contributing to Reduction of GHG

- Reduction of **886,300** tCO_2eq of GHGs (supplied 350,328 tons of biofuel)

Biofuel - Usage from Waste & Residue Raw Materials

- **311,288** tons

Recycled Waste Batteries

- **112,876** tons

Expansion of Eco-friendly Businesses

- Commencement of HVO-PTU construction (September 2023)
- Groundbreaking LIB recycling plant (May 2023)
- Groundbreaking DSE&E plastic resource recycling facility (September 2023)

Stock Market (KOSPI) Listing

- DS DANSUK listed on the securities market (December 22, 2023)

Enhancing the Independence & Expertise of the Board of Directors

- Appointed three new outside directors
- Established committees within the board (e.g., Audit Committee)

Maintain Zero Serious Accidents

- **2,505** days

Social Contribution

- **315** Million KRW

ESG Risk Management

Risk Management Scheme

DS DANSUK operates a risk management system to proactively review and respond to various risk factors that could impact business activities and prepare for potential risks in order to grow with all stakeholders. The risk management system is structured in stages. Initially, business unit members autonomously manage risks, followed by the operation of risk management and compliance support organizations, culminating in the oversight and policy approval of risks by the Board of Directors and other governing bodies.

Integrated Risk Management System

In a rapidly changing business environment, DS DANSUK operates a risk management system capable of identifying and responding to various risks that may arise during business activities. Company-wide risks are managed through autonomous risk management programs within operational departments, internal risk and compliance control systems, and audit systems. Top management sets the direction for enterprise risk management and periodically reviews the management status. The Board of Directors reviews major risks and establishes response plans through regular reports. By assigning risk management roles to all members, from top management to operational department personnel, we operate an advanced system that ensures company-wide risk management.

STEP 01 Autonomous Risk Management Program	STEP 02 Internal Risk and Compliance Control System	STEP 03 Internal Audit System
• Autonomous and exemplary self-risk management by members of the operational departments • Risk management as an organizational culture through self-compliance, dissemination of culture, and value sharing, based on high responsibility by members • Timely reporting of risks that significantly impact business activities during risk response • Managers ensure that various risk discussions are a routine part of the management	• Operation of specialized organizations/TF for risk management, regulatory compliance, and roles of internal control • Providing guidelines and advice for risk management along with compliance support • Systematic execution of processes for awareness, assessment, monitoring, and response to risks that may hinder the achievement of management goals • Proactive review and focused management of major potential risks and company-wide response when necessary	• Operation of an internal audit and management reporting system by the audit organization and compliance officers • Handling risks and taking follow-up actions within the scope of each audit • Evaluation and improvement of the current risk governance model • Providing recommendations for improvement across all business areas

DS DANSUK's Response to ESG Regulations

As international demands for carbon neutrality and corporate sustainable management intensify, DS DANSUK closely investigates and analyzes domestic and international regulatory and policy trends and integrates them into mid- to long-term management strategies. Key business areas, including bioenergy, batteries, and plastic recycling, have high growth potential as eco-friendly industries. However, the market is highly sensitive to strengthening global environmental regulations. Each business sector diversifies its portfolio and adopts flexible operational strategies in response to changes in market trends. Meanwhile, our non-business sectors have established an ESG management system to meet global supply chain management requirements such as the EU Corporate Sustainability Due Diligence Directive. DS DANSUK responds swiftly to market changes and formulates precise response strategies for sustainable management by reviewing eco-friendly technologies and processes and diversifying R&D for sustainable innovation.

Response to ESG Regulations

DS DANSUK's Response Strategy to ESG Regulations

DS DANSUK tracks ESG regulations through an integrated risk management system and issue-specific strategies across various sectors. We promptly identify and analyze changes in ESG regulations and new requirements, developing customized strategies tailored to the characteristics of each business. This approach allows DS DANSUK to minimize risks, maintain sustainable management, and promote long-term growth.

Regulatory Response System

Identify Regulatory Trends
- Continuously monitor global and domestic ESG regulatory trends
- Rapidly disseminate and report new regulations and policy changes

Analysis and Evaluation
- Analyze the impact of the regulations on each sector
- Evaluate risks and opportunities from regulations

Formulate Response Strategy
- Develop tailored response strategies based on the analysis results
- Complement and prepare response plans for business/research and relevant portfolios

Execution and Monitoring
- Implement response strategies for each sector
- Continuously monitor the issues and new risks arising during implementation

Feedback and Improvement
- Improve tasks and strategies based on the monitored results
- Proactively consider response measures for mid- to long-term regulatory changes

Report to the Board
- Submit agendas to the Board of Directors or ESG Sustainable Management Committee based on the importance and necessity of each issue
- Redefine directions and implement tasks according to major decision-making matters

Strengthened Marine Fuel Regulations

	2023 IMO Strategy	EU, FuelEU Maritime	Ministry of Oceans and Fisheries, 'Eco-friendly Marine Fuel Supply Chain Plan'
Regulations	• Achieve Net-Zero emissions in international shipping by 2050 (decided to reduce emissions by at least 20% by 2030 and at least 70% by 2040)	• Promote the use of renewable or low-carbon fuels in ships operating within Europe • Set a target to reduce GHG emissions by 80% by 2050	• Aim to expand the supply of eco-friendly marine fuels to 30% (4.02 million tons) by 2030
Response Strategies	• Develop and export proprietary bio marine fuel that meets the ISO 8217 international standard for marine fuel • Develop and export various types of bio marine fuels such as marine bio diesel and blended with VLSFO, which meets the EN 14124 standard		

Strengthened Aviation Fuel Regulations

	ICAO CORSIA	EU, RED III & RefuelEU Aviation Regulation	US, SAF Grand Challenge
Regulations	• Adopted the Carbon Offsetting and Reduction Scheme for International aviation in 2016 • Introduced MRV (Measurement, Reporting, and Verification) systems for all air transport operators in 2019 • Maintain CO_2 emissions in international aviation at 2019 levels (including offsetting emissions)	• Expand the regulatory scope from road transport to the aviation and maritime sectors • Mandate the blending of SAF for airports and airlines within the EU starting in 2025 (phasing out free allocation under the EU-ETS from 2024 to 2026)	• Set a target to replace 100% of aviation fuel demand with SAF by 2050
Response Strategies	• Preemptively enter the HVO pre-treated oil market by establishing the HVO-PTU at Pyeongtaek Bio Plant 1 • Business Plan for HVO Plant Construction → Promote entry into the bio-aviation fuel market • Expand HVO and bio-aviation fuel production through global partnerships		

Activating Battery Recycling Industry

	EU, Battery Regulation	EU, CRMA & US, IRA Regulation
Regulations	• Set mandatory minimum recycling rates for battery raw materials starting in 2031 with gradual increases (cobalt 16%, lithium 6%, lead 85%, nickel 6%)	• Reduce dependence on a single import country for certain strategic raw materials and revitalize the battery raw material recycling industry
Response Strategies	• Expand the recollection of LIB active materials (Black Mass) by developing LIB recycling process technology, upgrading facilities, and installing additional production bases • Introduce process technology for extracting lithium, nickel, cobalt, and manganese from recovered active materials • Develop NCM precursors and LFP cathode material technologies based on recycled raw materials	

Expanding Plastic Recycling PCR Business

	EU, US, etc. Extended Producer Responsibility(EPR) System	EU, Packaging and Packaging Waste Regulation (PPWR)	US, National Recycling Strategy	Domestic Plastic Waste Recycling Mandates and Promotion Systems
Regulations	• Mandate producers to recycle a certain amount of their product waste	• Impose minimum recycling content requirements for plastic packaging • Encourage 10% of packaging to be reusable by 2030	• Set a target to achieve a 50% recycling rate by 2030 • Introduced grant programs for recycling infrastructure	• Mandate labeling of recycled plastic products • Provide recycling benefits through the Act on the Promotion of Saving and Recycling of Resources
Response Strategies	• Expand and upgrade plastic waste separation and sorting facilities and extend the raw material sourcing (supply chain) network • Enhance recycled plastic compounding technology and supply customized products to clients • Establish overseas bases to expand the plastic waste supply chain and market			

Double Materiality Assessment

Each year, DS DANSUK identifies the positive and negative impacts of issues related to sustainable management and gathers the opinions of key stakeholders to determine the core issues that must be addressed. To this end, we conduct a double materiality assessment based on global sustainability management standards (GRI Standards). This assessment integrates both social and environmental perspectives as well as financial perspectives, which significantly impact corporate sustainability. Based on the result of the double materiality assessment, six key issues were identified out of a total of 18: climate change response, GHGs and energy source management, resource circulation, air pollution, industrial health and safety, and research and development. Notably, for two consecutive years, the key core issues were climate change response, resource circulation, industrial health and safety, and research and development. The newly identified key issues are GHGs and energy source management and air pollution. The major sustainable management activities and achievements undertaken in 2023 focusing on these key issues are comprehensively detailed in the report. Moving forward, DS DANSUK will continue to transparently disclose the necessary information and achievements of interest to all stakeholders, including financial, social, and environmental aspects.

Double Materiality Assessment Process

Formulate DS DANSUK's Unique Issue Pool — STEP 01
- Selected 18 ESG issues for DS DANSUK through a comprehensive analysis of global sustainability standards, ESG evaluation indicators, internal strategies, benchmarking, and media.

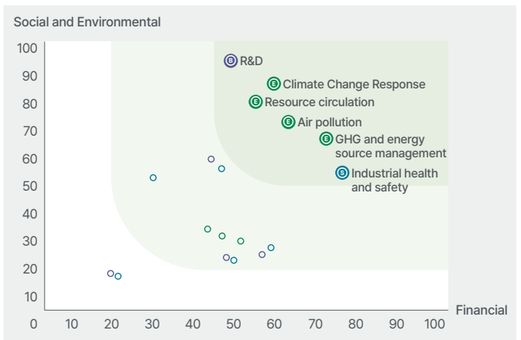
Manage the Risks and Opportunities from the Impact — STEP 02
- Of the 18 selected issues through the IRO analysis, identified and evaluated the risks and opportunities.

Conduct the Double Materiality Assessment — STEP 03
- Based on the 18-issue pool, conducted surveys with DS DANSUK's key stakeholders (e.g., employees, customers, partners, investors, etc.) to analyze the likelihood and impact of social, environmental, and financial impacts.

Select and Validate Key Issues — STEP 04
- Performed a comprehensive analysis of the survey results, ESG evaluation indicators, benchmarking, and ESG strategies to select six key issues and conducted validity assessments.

Review and Finalize Selected Key Issues — STEP 05
- Reviewed and finalized the selected key issues through the ESG Sustainable Management Committee.

Materiality Assessment Result



Key Issues

	Issues	Fluctuations	Opportunity / Risk	Impact	
1	E Climate change response	-	Opportunity	Positive	Actual
2	E GHGs and energy source management	New	Risk	Negative	Potential
3	E Source circulation	-	Risk	Positive	Actual
4	E Air pollution*	New	Opportunity	Positive	Potential
5	S Industrial health and safety	▼1	Risk	Negative	Potential
6	E Research and Development	-	Opportunity	Positive	Potential

* The issue of 'Air pollution' includes the environmental preservation benefits associated with the supply of eco-friendly biofuels.

Response Strategies Linked to the UN SDGs for the Key Issues

DS DANSUK has established risk and opportunity factors, along with response strategies, for the six identified key issues. We are implementing systematic management based on the UN Sustainable Development Goals (SDGs).

Key Issues	UN SDGs	Risks	Our Response Strategies	Pages
01. Response to Climate Change	7, 13	• Strengthened regulations related to climate change • Increased interest in enhancing sustainable management related to climate change	• Establishing an environmental management roadmap • Developing an RE100 roadmap	32-55
02. GHGs and Energy Source Management	7, 13	• Increased regulations and social demands for reducing GHG emissions • Potential damage to the reputation due to negative environmental impacts from production activities	• Reducing GHG emissions and improving energy efficiency through the installation of solar energy channels at business sites and activities to reduce GHG emissions	32-41
03. Resource Circulation	12, 15	• Strengthened regulations related to resource recycling in different countries • Issues in securing resources due to rising raw material prices and intensified market competition	• Promoting new businesses based on resource circulation and diversifying and optimizing raw materials used in processes • Establishing a global raw material supply chain to secure resource circulation value for each business	42-55
04. Air Pollution	11	• Increased need for distinction due to expanded renewable energy market contributing to air pollution reduction, leading to more competitors • Worsening air quality in surrounding areas due to air pollutants (e.g., community complaints)	• Expanding next-generation HVO business based on various biofuel production technologies • Implementing additional installation and replacement of reduction facilities for the effective removal and emission of air pollutants	32-41
05. Occupational Health and Safety	3, 8	• Need to establish a self-regulatory prevention system due to the strengthened Serious Accidents Punishment Act • Productivity decline due to stress and work-life balance issues	• Establishing governance, management systems and a company wide culture of safety and health • Promoting continuous communication and a safety and health suggestion system, even with partners	56-65
06. Research and Development	7	• Increased need for research and development due to the mandatory use of eco-friendly products • Need to pursue R&D to respond to the emergence of new technologies on climate change mitigation	• Developing recycling technologies and process optimization for each business • Promoting R&D for the mid- to long-term application of carbon neutrality technologies	42-55

Communication with Stakeholders

DS DANSUK strives to fulfill its corporate social responsibility by communicating with various stakeholders. We classify our key stakeholders into customers, employees, local communities, shareholders, investors, partners, and government/local authorities. By establishing diverse communication channels with each stakeholder group, we aim to understand their main interests and requirements and continuously reflect them in our management direction.

Stakeholders	Customers	Employees	Local Communities	Shareholders and Investors	Partners	Government/Local Authorities
Definition	• Those who receive DS DANSUK's products and services	• Human resources that make up DS DANSUK, those who are future assets of the company	• Those affected by DS DANSUK's business activities in terms of the local economy and environment	• Those impacted by DS DANSUK's performance and who have an influence on management through shareholders' meetings, etc.	• Those who have a strategic partnership with DS DANSUK and have an essential influence on our business activities	• Those who manage and supervise DS DANSUK's regulatory compliance, support/evaluate the activities of companies
Communication Channels	• Customer service website • In-person consultation	• Groupware • Labor Management/ Health and Safety Council	• Social contribution activities	• Shareholders' meeting • Website • IR activities	• Partner meetings • Partner training	• Public–private partnership programs • Visiting relevant institutions
Main Interests	• Quality • Price • Deadline	• Welfare and benefits • Fair evaluation and remuneration • Work-life balance	• Social responsibility • Environmental impact from business activities	• Corporate value/ business performance/ dividends • Growth strategy • Transparent governance	• Fair trade • Working environment	• Compliance with laws and regulations • Partnerships • Community investment

Driven Sustainability Story

DS STORY 01

Low-carbon Business Sites and Air Quality Improvement

DS DANSUK proactively addresses climate change issues and creates green future value based on ESG principles. With global warming becoming a critical issue worldwide and the occurrence of unexpected climate disasters such as floods and wildfires, there is a growing need for strategies to manage carbon and energy sources, respond to climate change, and ensure mid- to long-term sustainability. In response, DS DANSUK is actively working to reduce carbon emissions in its workplaces and reducing GHGs through its eco-friendly bioenergy business, thereby proactively addressing climate change.

UN SDGs

Goal 7.2
By 2030, increase substantially the share of renewable energy in the global energy mix.

Goal 11.6
By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

Goal 13.3
Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Impact Level of Climate Change Response on DS DANSUK

Impact Level of GHGs and Energy Source Management on DS DANSUK

Impact Level of Air Pollution on DS DANSUK

Governance

The CEO(Compliance management) of DS DANSUK oversees environmental management, operating a company-wide environmental management organizational structure centered on the headquarters, with dedicated processes and teams specialized in raw materials, process lines, and products at each business site. Major strategic tasks related to GHG reduction, the expansion of renewable energy use, and environmental conservation activities are reported to the ESG Sustainable Management Committee and Board of Directors, thereby strengthening the company-wide environmental management system.

Strategy

DS DANSUK has established an environmental management roadmap that includes the application and systematization of production technologies to minimize environmental pollution and the management of energy sources, GHG emissions, and air pollution at each business site. Additionally, we aim to contribute to carbon neutrality by striving to indirectly reduce GHGs by supplying biofuels.

Risk Management

DS DANSUK maintains an ISO 14001 environmental management system certification and systematically operates its environmental management. We continuously monitor carbon emissions and other air pollutants using specialized teams and systems, and we have a system to periodically report these matters to top management to effectively manage risks.

Metrics and targets

DS DANSUK contributes to reducing GHG emissions through investments in increasing biofuel supply and improving energy efficiency by managing environmental key performance indicators (KPIs) such as reducing GHGs and air pollutant emissions. Following our environmental management roadmap for carbon neutrality, we plan to achieve the long-term RE100 targets and create shared value through air pollution reduction and air quality improvement.

Total GHG Emissions

2023 Performance

(Compared to 2022) Production 1.3%▲
GHG base unit emission 0.9%▼
Energy usage 4.1%▼

2024 Goal

Establish smart eco-factories for GHG reduction (including ICT-based GHG monitoring systems)

RE100

2023 Performance

Established mid- to long-term goal

DS RE100

2024 Goal

Self-generation and transition of energy (11%)
Energy efficiency improvement through process optimization

Reduction of Air Pollution

2023 Performance

(Compared with 2022) PM, NOx, SOx Total emission(base unit) 8%▼

* Base unit based on total production (Jecheon Plant excluded)

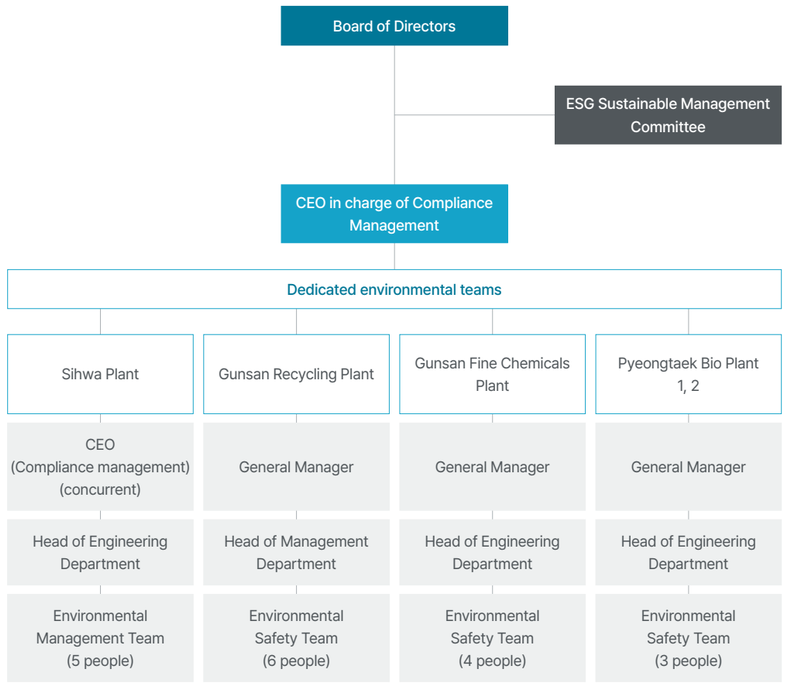
2024 Goal

Implement efficient overhauls of facilities, additional installation/ replacement of air pollutant prevention facilities

GOVERNANCE

DS DANSUK Environmental Management Governance System

DS DANSUK fosters a company-wide consensus on climate change issues through the ESG Sustainable Management Committee, led by top management. The key issues of the committee are reported to the Board of Directors, the highest decision-making body, which establishes a proactive governance system for ESG management. Centered on the Chief Compliance Officer, DS DANSUK has developed a company-wide environmental management organizational structure to address climate change and minimize its environmental impacts. Dedicated environmental teams manage these issues at each business site. Major strategic tasks such as GHGs and energy source management, air pollution reduction and air quality improvement, and strengthening circular recycling solutions, are reported to the ESG Sustainable Management Committee and Board of Directors, thereby strengthening environmental management governance.



STRATEGY

Climate Change Response Strategy

As climate change accelerates, the frequency of natural disasters increases, significantly affecting companies' assets and revenue. In response, DS DANSUK leverages the characteristics of its eco-friendly energy and materials businesses to identify global climate change-related risks and opportunities. We aim to address global crises by establishing risk management processes and strategies.

Identifying Climate Change Risks and Opportunities

To understand the impact of climate change on DS DANSUK's business activities, we have identified risk and opportunity factors. Moving forward, we plan to conduct a climate change scenario analysis following the TCFD recommendations and comprehensively analyze the likelihood and impact of each risk and opportunity factor. This will help us assess the influence of climate change on our financial performance (e.g., revenue).

Category		Explanation	Response Strategy	Impacts on DS DANSUK
Transitional Risks	Policy and Regulations	EU, Packaging and Packaging Waste Regulation	Strengthening supply chain management	• (2030) All packaging designed for recycling • (2035) Establishment of a realistic recycling system required • Significant increase in the proportion of recycled materials used
		EU Battery Regulation		• Mandatory : reporting of carbon footprint, collection of waste batteries and supply chain due diligence • (2031) Mandatory use of a certain percentage of recycled materials in new batteries
	Technology	Transition to low-carbon, low-energy technologies	Establishing eco-friendly workplaces for reducing GHGs and energy consumption	• Large-scale facility investment costs or increased replacement costs, caused by compatibility issues between existing infrastructure and low-carbon, and low-energy technologies
		Advancement of resource circulation technologies	Establishing and implementing product and technology development strategies and roadmaps	• Technology advancement to comply with environmental regulations and secure cost competitiveness
	Market and Reputation	Increased customer demand for carbon reduction products	Strengthening low-carbon product certification	• Infrastructure enhancement to maintain certifications for the carbon emission reduction effects of DS DANSUK's products
		Instable supply due to rising raw material prices	Securing raw material supply through a closed-loop system	• Production instability and increased production costs due to raw material supply issues
Physical Risks	Acute	Increasing frequency and intensity of extreme weather events (e.g., floods, wildfires)	Establishing preemptive climate change risk assessment and management systems for each business unit	• Delivery delays due to the increasing frequency and intensity of extreme weather / Increased costs for maintenance, repair, and handling product defects
	Chronic	Rising sea levels and global average temperatures		• Supply instability of bioenergy raw materials and recycled raw materials due to rising sea levels and global average temperatures
Opportunities	Products/ Services	Expanding demand for green products	Transitioning to low-carbon technologies and using low-carbon alternatives	• Increased demand for eco-friendly products due to changes in customer preference for low-carbon products
	Energy	Expansion of low-carbon and sustainable technologies		• Reduction in operating costs through the application of low-carbon and sustainable technologies/methods

Establishing the Climate Change Management Process

01. Identification of Risk and Opportunity Factors
- Identify climate change issues for each business site
- Review the impact of climate change issues on business sites
- Identify risks and opportunity factors related to climate change

02. Risk Assessment and Analysis
- Conduct preliminary investment reviews for research and development and new business investments
- Identify financial and non-financial risks for each business
- Analyze the short, mid, and long-term impacts on business

03. Risk Response
- Establish internal response systems based on the analysis of risk assessment results
- Select performance indicators for managing risk and opportunity factors
- Develop and implement response strategies and plans for each risk and potential impact, and conduct continuous monitoring

04. Risk Management
- Review major risks through the ESG Sustainable Management Committee and report to the Board of Directors
- Establish and derive improvement measures for climate change response strategies
- Continuously manage climate change risks by integrating them into the company-wide risk management system

STRATEGY

Environmental Management Roadmap Toward Carbon Neutrality

Milestone Check

DS DANSUK recognizes the severity of the global climate crisis and is continuously striving to reduce GHGs that threaten the sustainability of eco-friendly industries. At the governance level, we have established an environmental management roadmap to participate in the government's "2030 Nationally Determined Contribution" for GHG reduction targets and global Net-Zero policies. By 2025, we are aiming to establish a foundational governance framework, including policies for building an environmental management platform, and pursuing each strategic task and indicator. Additionally, we will strengthen the environmental management activities at each business site and apply carbon reduction technologies to implement this roadmap in the mid to long term.

	2021~2025	2026~2030	2031~2050
Category	Build an Environmental Management Platform	Internalize the Environmental Management System	Advance Environmental Management
Governance	• Establishing an ESG governance foundation and refining policies • Strengthening the activities of the ESG Sustainable Management Committee • Formulating a carbon neutrality roadmap and ESG supply chain policies • Supporting and joining ESG initiatives (e.g., UN SDGs, TCFD)	• Analyzing climate change scenarios and developing related strategies • Advancing the carbon neutrality roadmap (quantitative targets) • Enhancing environmental management information framework and disclosure • Expanding ESG initiative activities	• Setting a 2050 Net-Zero target • Strengthening reporting/ certification capabilities for ESG initiatives (e.g., RE100, SBTi) • Integrating and evaluating ESG management elements across the supply chain
Strategic Tasks and Indicators	• Strengthening GHG monitoring and management systems • Enhancing environmental impact/waste monitoring and management processes • Advancing environmental management KPIs • Improving energy efficiency through process operation improvements and introducing high-efficiency facilities • Reviewing RE100 implementation plans • Establishing a life cycle assessment (LCA) platform	• Managing and reducing GHG emissions, including Scope 3 • Setting energy usage (base unit) reduction targets • Strengthening environmental risk management for partners • Implementing eco-friendly social contribution activities • Gradually implementing RE100 (e.g., achieving RE30 through renewable energy procurement) • Conducting LCA impact assessments for all products	• Setting a target to achieve RE100 - Strengthening the technology/ infrastructure for the self-production of renewable energy and enhancing energy utilization efficiency (Fuel cell, ESS) • Expanding the application of carbon reduction technologies • Establishing and implementing company-wide biodiversity targets and activities • Strengthening support activities for ESG supply chain (partners) climate change response

Achievements

2017
- Established a GHG Emission Management System
- Strengthened Waste Management Processes
- Expanded Facilities for Reducing Air Pollutant Emissions

2022
- Activated the ESG Sustainable Management Committee

2023
- Replaced Aging FRP Scrubbers with STS304 Material
- Replaced Inverter-Controlled Air Compressors and High-Efficiency Filter Collectors

2024
- Invested in the Self-Procurement of Renewable Energy at Business Sites - Solar Roof
- Completed LCAs for Selected Products
- Created New Membership in ESG Initiatives
- Formulating Basic Policies Related to ESG Management (2024 ESG Supply Chain Policy, Carbon Neutrality Basic Roadmap)

Carbon Neutrality Roadmap

DS DANSUK aims to continue its efforts toward carbon neutrality by implementing environmental management that creates eco-friendly value. By aligning with three strategic actions, we plan to achieve mid- to long-term DS RE100, analyze and invest in reducing key GHG emission spots, and apply carbon neutrality technologies to our processes. We aim to achieve the 2050 carbon neutrality target and contribute to solving the global climate crisis. We are continuously reviewing investments to optimize energy use by introducing high-efficiency equipment and reducing the strategic load. We aim for 2050 Net-Zero by applying mid- to long-term carbon reduction (CCUS) technologies. In the future, DS DANSUK plans to enhance the practical implementation of the carbon neutrality roadmap by setting and detailing step-by-step reduction targets and action plans, including subsidiaries and overseas business sites, to meet global carbon neutrality standards.

Goal

2050 Carbon Neutrality
(Based on DS DANSUK Headquarters and Domestic Sites)

Implementation Strategy and Details

Enhance Energy Efficiency through Process Improvements	Expand the Use and Procurement of Renewable Energy	Develop and Apply Carbon Neutrality Technologies
• Optimize electricity and energy usage through FEMS analysis and the introduction of high-efficiency equipment (e.g., boilers) • Introduce magnetic coupling • Reduce power load through steam-driven air compressors • Upgrade waste heat recovery systems	• Establish and implement the DS RE100 plan (building self-solar power generation roof facilities and develop/operate renewable energy domestically and internationally) • Use of solid fuel for steam production (zero greenhouse gas emissions) • Innovate energy solutions linked to renewable energy generation, such as the introduction of ESS	• Reduce and utilize carbon emissions from business sites through the development of CCUS technology • Establish gray and green hydrogen production plants • Build a foundation for clean electricity production through fuel cells

Renewable Energy Roadmap for Achieving DS RE100

Within the environmental management roadmap, DS DANSUK is reviewing the implementation plan for RE100 and detailing the renewable energy roadmap, including solar installations. Starting with the installation of solar power generation facilities (solar roofs) in factory buildings, we plan a gradual transition to alternative energy sources to achieve carbon neutrality and DS RE100 by 2050.

2024
- First steps toward energy transition through solar power generation
- Optimization of energy use through the introduction of high-efficiency equipment

2025 Achieve DS RE10
- Energy innovation linked to renewable energy generation
- Substituting approximately 11% of energy compared to annual power consumption

2030 Achieve DS RE30
- Operation and development of renewable energy domestically and internationally

2050 Achieve DS RE100
- Achieve Net-Zero through the production, transportation, and utilization of green hydrogen

RISK MANAGEMENT

Managing Carbon Emissions and Air Pollutant Risks

DS DANSUK has established a monitoring system for carbon emissions and air pollutants based on the ISO 14001 Environmental Management System. In line with the 2024 pollutant emission reduction plan, we have reset the equipment overhaul cycle to reduce air pollutant emissions. By measuring all the items in our air pollutant prevention facilities, we manage not only permitted substances, but also any additional substances that may be generated, minimizing air pollutants and carbon emissions at our business sites. To further reduce air pollution, we are installing additional air pollution prevention facilities across all business sites and replacing outdated facilities to improve efficiency. As a result, the number of air pollution prevention facilities increased by 29 units compared with the previous year. Specifically, at the Gunsan Recycling Plant, we added 17 air pollution prevention facilities compared with the previous year to reduce air pollution risks and carbon emissions.

Air Pollutant Management Status

Site	Site Scale	Status of Air Pollution Prevention Facilities
Sihwa Plant	Class 2	Total 24 units (8 scrubbers, 5 filters, 5 A/C towers, 6 regenerative thermal oxidizers (RTO))
Gunsan Recycling Plant	Class 1 (Special)	Total 29 units (5 settling chambers, 7 cyclones, 8 A/C towers, 9 filters)
Gunsan Fine Chemicals Plant	Class 1 (Special)	Total 56 units (2 scrubbers, 54 filters)
Pyeongtaek Bio Plant 1	Class 3	Total 11 units (5 regenerative thermal oxidizers (RTO), 6 scrubbers)
Pyeongtaek Bio Plant 2	Class 3	Total 4 units (2 regenerative thermal oxidizers (RTO), 2 scrubbers)
Jecheon Bio Plant	Class 3	Total 4 units (2 A/C towers, 2 cyclones)

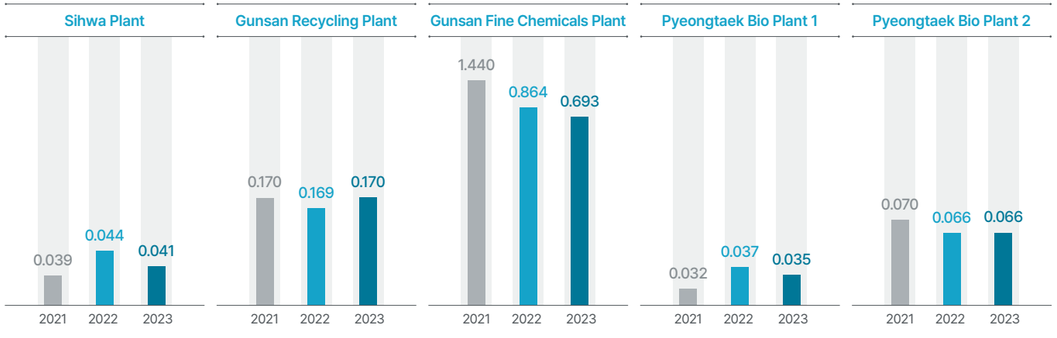
METRICS AND TARGETS

Activities and Achievements

DS DANSUK is committed to reducing GHG emissions by decreasing energy consumption and enhancing operational efficiency at business sites through various activities. We actively monitor GHG emissions and participate in a GHG emissions trading scheme to reduce the emissions generated at our business sites using allocated allowances during the planning period. Additionally, we participate in government-supported GHG and energy reduction programs by replacing equipment such as inverter air compressors and high-efficiency filter collectors. We also conduct various energy-saving activities tailored to the specific conditions of each business site, leading the way towards achieving carbon neutrality.

GHG Emissions per Unit by Site

Unit: tCO_2eq/Ton (Production)



Status of GHG and Energy Reduction Activities through Solar Power Installation

In response to strengthened global carbon neutrality policies and GHG emission regulations, DS DANSUK plans to introduce renewable solar energy facilities, which use carbon-free equipment, to achieve RE100. By installing solar power generation facilities on the roofs and parking lots of our business sites, we plan to reduce GHG emissions through the self-consumption of generated electricity. In December 2023, we applied for GHG reduction equipment support (solar power generation equipment) from the "Carbon Neutral Facility Support Project for Emissions Trading Scheme Allocation Target Companies," promoted by the Korea Environment Corporation. In February 2024, we were selected as recipients of the support project and subsidy with plans to complete construction and installation by the end of 2024. Through the installation of solar power generation facilities, we expect to substitute approximately 11% of annual electricity consumption and reduce annual GHG emissions by 2,192 tCO_2.

Category		Sihwa Plant	Gunsan Recycling Plant	Gunsan Fine Chemicals Plant	Total
Annual Usage (KW)		14,075,217	15,954,768	14,239,680	44,269,665
Generation	Solar Facility Capacity (kWh)	930	1,820	1,250	4,000
	Annual Generation (kW/year)[1)]	1,154,130	2,258,620	1,551,250	4,964,000
	tCO2 Reduction Amount (tCO_2eq/year)	510	997	685	2,192

1) Facility Capacity*3.4 hr/day*365 days

GHG and Energy Reduction Activities by Business Site

Site	Activities	Expected Outcomes
Sihwa Plant	• Established a condensate heat recovery system in the refining unit • Implemented a dual heat exchanger system and improved tank temperature management efficiency	• Utilize heat for raw material tank heating to reduce steam usage • Reduce energy consumption during processing
Gunsan Recycling Plant	• Applied for the 2024 Smart Eco-Factory Support Project to replace the dust collectors in Units 1 and 2 • Considered introducing a waste heat recovery system for kettle burners	• Reduce GHG emissions through dust system improvements • Reduce energy consumption through waste heat recovery
Gunsan Fine Chemicals Plant	• Established and utilized energy-saving, production facility waste heat recovery systems	• Reduce LNG fuel usage by 20%, expected to save 1,100,000 m^3 of LNG annually
Pyeongtaek Bio Plants 1 and 2	• Increased boiler efficiency through the replacement of old boilers and installation of new boilers • Reduced nitrogen oxide emissions from boilers using low NOx burners • Purchased heat energy from solid fuel product facilities at Pyeongtaek Plant 1	• Reduce LNG usage through increased boiler efficiency • Reduce GHG emissions with low NOx burners • Reduce GHG emissions by purchasing heat from waste resource facilities

GHG Reduction through Facility Improvement Investments

DS DANSUK has replaced its facilities with inverter-controlled air compressors to reduce GHG emissions at its business sites. This equipment allows for the adjustment of operating speeds as needed, preventing unnecessary energy waste, extending the lifespan of the equipment, and reducing maintenance costs. By installing inverter air compressors with improved energy efficiency compared with existing facilities, DS DANSUK has reduced its electricity consumption by 115,061 kWh and GHG emissions by 55 tCO_2eq. DS DANSUK will continue to invest in sustainable technologies and facility improvements to enhance its energy efficiency and reduce GHG emissions.

▼ Inverter-controlled Air Compressors

Annual Improvement Effects of Replacing Inverter Air Compressors

Sort	Power Usage	GHG Emissions
Unit	kwh	tCO_2eq
Before	394,466	188
After	279,405	133
Reduction	115,061	55

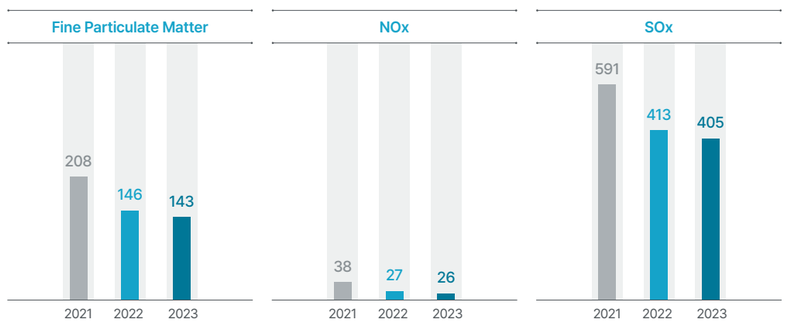
Creating Shared Value through Air Pollution Reduction and Air Quality Improvement

Air pollution and climate change, which threaten the global environment, are critical issues that will greatly impact human lives and future environments. Common manufacturing and industrial activities have led to an increase in air pollutants and GHG emissions, resulting in health problems for society and accelerating climate change. Therefore, to address the closely interconnected issues of air pollution and climate change, we must reduce fossil fuel usage and actively transit to eco-friendly energy to create a sustainable global environment.

DS DANSUK plans to implement strengthened reduction policies such as mandating reduction devices to reduce air pollutants emitted from business sites. Rather than focusing solely on carbon emission issues, we recognize the severity of air pollution problems that directly affect human health and ecosystems and are preparing proactive measures. DS DANSUK acknowledges the importance of biofuels as alternatives to fossil fuels, which have a high proportion of air pollutants and GHG emissions per unit of energy used. By supplying biofuels, we contribute to a reduction in air pollutants.

Contribution to the Reduction of Air Pollutants through the Supply of Bio heavy oil

Unit : Ton



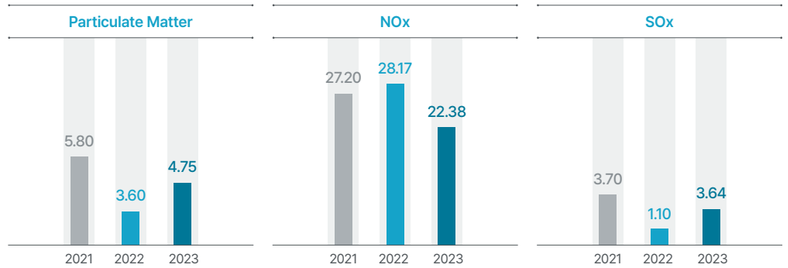
Reduction and Management of Air Pollutant Emissions

In response to the trend of strengthening environmental policies and regulations, DS DANSUK is implementing a total air pollutant emissions management system to control the generation of air pollutants. By conducting emission impact analyses to assess the effects of the air pollutants emitted from processes on the surrounding environment, we set and strictly manage the step-by-step permitted emission standards. This ensures compliance with environmental regulations and stakeholder requirements. According to Article 52 of the Enforcement Rules of the Clean Air Conservation Act, we perform proper operations by preserving the filter paper and sampling records used during self-measurement for six months from the date of measurement, among other measures. Simultaneously, various pollutant reduction facilities have been installed and replaced to eliminate and reduce environmental pollutants. By monitoring the environmental pollutants emitted by DS DANSUK, we aim to understand the impact on surrounding areas and continuously strive to improve the environment, thereby improving air quality in local communities.

▼ Odor Scrubber

Emission Levels of Air Pollutants

Unit : Ton



* Excluding the Bio Jecheon Plant

Scrubber

Site	Main Activities
Sihwa Plant	• Reached a processing efficiency of about 98% for THC and other organic compounds generated in the bioprocess • Installed high-efficiency facilities with over 95% heat recovery rate, which will reduce the air pollutants generated during facility operation • Introduced a combustion method in existing prevention facilities, which will reduce air pollutants, water pollution, soil pollution, and waste simultaneously without generating additional waste • Planned a facility expansion due to combustion (approximately 1.1 billion KRW investment)
Gunsan Recycling Plant	• Replaced two high-efficiency filter dust collectors, which reduced annual emissions of dust and heavy metals by about 99% compared with the previous year • Introduced vacuum suction cleaning vehicles to reduce the pollutants generated by fugitive dust (cleaning the entire site indoors and outdoors twice a week) • Minimized fugitive dust by operating enclosed factory buildings
Gunsan Fine Chemicals Plant	• Operated odor scrubbers to improve the internal and external environment of the plant (conducting odor reduction activities through internal and polliing cleaning and stack extension) • Conducted self-measurement of air prevention facilities at least once a month, up to once a year, including the re-measurement of facilities if emissions exceed 50% of the allowed limit • Replaced old FRP scrubbers with STS304 material to enhance high-temperature safety
Pyeongtaek Bio Plants 1, 2	• Set and managed replacement cycles for cleaning water and fillers such as activated carbon • Regularly self-measured and documented air pollutants according to legal cycles as well as managed data for each prevention facility • Plant 1: Installed pre-treatment facilities before the prevention facilities • Plant 2: Replaced outdated wet air pollutant prevention facilities

DS STORY 02

Circular Economy Activation

DS DANSUK believes that overcoming the scarcity of resources is essential for sustainable growth. To contribute to South Korea's transition from a resource-importing to a resource-exporting country, we are expanding our business areas into eco-friendly resource circulation industries based on strengthened R&D capabilities and recycling businesses. In the bioenergy sector, we aim to maximize the use of waste resources and by-products to continue the chain of innovation in waste reduction and environmental energy production. Business advancements in the battery and plastic recycling sectors are pursued by aiming for a closed-loop model.

UN SDGs

Goal 7.a
By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossilJfuel technology, and promote investment in energy infrastructure and clean energy technology.

Goal 12.5
By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Goal 14.1
By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from landJbased activities, including marine debris and nutrient pollution.

Goal 15.1
By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

Impact Level of Climate Change Response on DS DANSUK

Impact Level of Resource Circulation on DS DANSUK

Impact Level of R&D on DS DANSUK

Governance

DS DANSUK's top management consists of the CEO in charge of business strategy (e.g., planning, investment, finance) and the CEO responsible for compliance management (e.g., production, R&D), each leveraging their expertise in their respective fields. Through synergistic interconnections, including with lower-level organizations, they activate the R&D pipeline from R&D to commercialization. Significant business-related decisions are made by forming project-specific task forces to conduct feasibility studies. These decisions are then reviewed and approved by the committees and Board of Directors according to internal standards.

Strategy

DS DANSUK is aiming to become a total solution provider in the recycling sector by operating flexible business strategies that can sensitively respond to changes in global ESG regulations and environmental industry trends. We are pursuing new businesses that maximize synergies with existing operations and the strengths of DS DANSUK's technology and infrastructure through continuous technological development and innovation in diversified recycling-based business models. Additionally, we conduct LCAs to objectively analyze the environmental impact of our products, drive process innovation, and ensure the sustainability of our business.

Risk Management

DS DANSUK is enhancing its governance to comprehensively manage the risks related to ESG management and business activities. Through regular strategic meetings between relevant departments, we analyze and differentiate the anticipated risks and opportunities to develop response scenarios. For major risks associated with various projects in each business area, we consider both financial and non-financial factors to derive operational strategies that are reported to the management and Board of Directors, along with the plans and implementation results.

Metrics and targets

DS DANSUK is striving to become a global leader in circular economy-based businesses by strengthening its recycling solutions. We aim to advance recycling technologies through forward-looking innovations at our R&D Center, diversify raw materials, develop new product lines, develop and optimize mass production processes, and establish and expand the application of LCAs.

Strengthening Circular Recycling Capabilities

Enhancing R&D Capabilities
Maximizing production efficiency of recycled products and expanding the use of recycled resources through the development and application of new technologies and processes

Bioenergy
Developing production technologies for next-generation biofuels and managing supply chain risks through raw material traceability (certification)

Battery Recycling
Stabilization of Black Mass production and business expansion into NCM precursors and LFP cathode materials.

Plastic Recycling
Expansion of waste plastic supply chain and increased production of customized PCR plastics.

GOVERNANCE

R&D for Resource Circulation

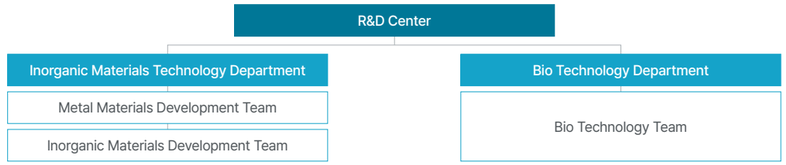
Introduction of the DS R&D Center

The DS R&D Center was first established in March 1990 as an affiliated research institute and contributed to securing business competency based on technological superiority, including receiving the INNO-BIZ certification for technology-innovative companies in 2006 through the continuous development of new technologies. Laying the foundation for fine chemistry, the DS R&D Center has engaged in activities ranging from developing new eco-friendly technologies and mass production processes. As part of our mid- to long-term growth roadmap, we are developing innovative forward-looking technologies. In the future, the DS R&D Center will continue to support DS DANSUK's sustainable growth through technological development to secure next-generation markets.

R&D Achievements

~'90s Forming	~'00s Growing	~'10s Developing	~Present Leaping
Establishing the foundation of fine chemistry • Localization of PVC stabilizers • Development of lead oxide process technology, etc.	**Establishing the foundation of the research institute and securing growth momentum** • Development of one pack stabilizer technology • Development of lead silicate manufacturing technology for electronic materials, etc.	**Development and diversification of eco-friendly new technologies** • Development of bio diesel synthesis technology • Development of LDH manufacturing technology, etc.	**Development of innovative technologies for bio diesel and recycled lead** • Development of high acid value raw material processing technology (EWG) • Advancement of recycled lead crushing and separation technology and development of valuable metal concentration and smelting technology, etc.

Research Organizational Chart



R&D Data

Category			Unit	2021	2022	2023
R&D	R&D Costs[1]	Operating Expenses	1 Million KRW	331	593	594
		Unit Cost relative to sales	1 Million KRW	0.0004	0.0005	0.0006
	R&D Personnel	Metal and inorganic material technology	Persons	4	4	8
		Biotechnology	Persons	4	3	4
		Composite materials[2]	Persons	9	9	Integrated
	Intellectual Property (Number of Registrations)	Total	Cases	17	17	17
		Patents	Cases	12	12	12
		Utility models&Designs	Cases	0	0	0
		Trademarks and other copyrights	Cases	5	5	5

1) DS DANSUK is an affiliated research institute; however, no direct R&D costs have been incurred over the past three years. R&D activities have focused on improving existing products and introducing new process technologies rather than developing new products. Therefore, the costs related to the research institute are accounted for under existing manufacturing cost account.
2) The composite materials R&D part was integrated into the inorganic materials technology and business division in 2023.

STRATEGY

Resource Circulation Roadmap

Technology Development Activities by Business

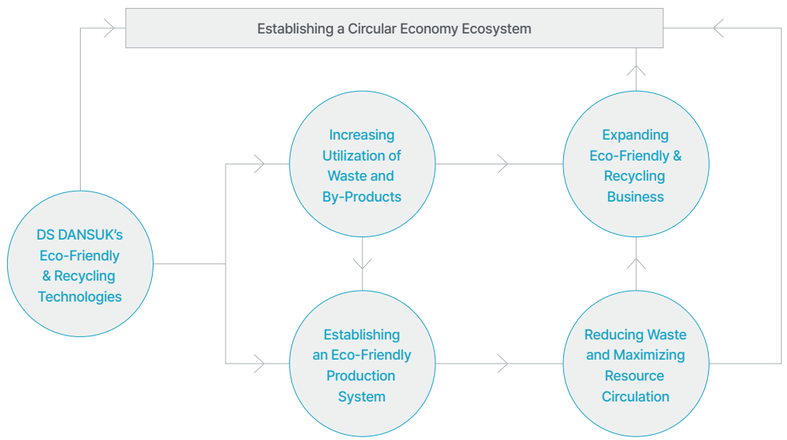
As the need to respond to the global climate crisis increases, environmental regulations and policies in various countries are being strengthened. DS DANSUK is focusing on the development of eco-friendly technologies and the enhancement of its business as a resource circulation specialist, anticipating a continuous increase in demand for renewable energy and recycling materials. By leveraging the extensive experience accumulated by continuously pioneering new businesses and domestic and international partnerships, we will strengthen our global supply chain management competitiveness, while focusing on R&D and value chain enhancement as a technology innovation company. Additionally, we will continuously identify waste resources that can be utilized in each business sector and introduce process technologies for creating environmental value, thereby developing an eco-friendly energy and materials company for sustainable growth in the future.

	Bioenergy	Battery Recycling	Plastic Recycling
Business Area			
2030 Market Prospect	Sustainable aviation fuel requirement[1] for achieving Net-Zero **23 Billion liters**	Battery Recycling Market Outlook[2] **13.646 Billion USD, 945 kton recovered**	Global Plastic Recycling Market[3] **81.81 Billion USD**
Mid-to-long Term Visions	Seizing the Next-Generation Bioenergy Market	Growing into a Leading Secondary Battery Material Company	Entering the High-Performance PCR Plastic Market
R&D	• Stabilizing the production of HVO pre-treated oils and expanding the market • Establishing plants for the main production of HVO and SAF	• Expanding LIB recycling plants and recovering active materials (Black Mass) • Developing technology for extracting key minerals and material technology	• Advancing waste plastic separation /sorting technology and building a supply chain • Supplying customer-specific PCR plastic compounding products
	• Stabilization of HVO pre-treated oil production and diversification of applicable feedstocks • Development of proprietary HVO & SAF technologies and securing by-products (Bionaphtha)	• Stabilization of the LIB recycling process and advancement of physical separation technologies • Development of lithium and NCM extraction process technologies • Development of LFP cathode material and NCM precursor synthesis and process technologies	• Development of high-purity separation and sorting technologies for ABS, PS, PP, and other plastics • Expansion of products using PCR plastics, including engineering plastics (EP, S-EP)

Leaping as a Global Leading Company in the Resource Circulation Industry for tomorrow's sustainable growth

1) IATA, SAF Factsheet – IATA Net Zero Resolution, 2024.05
2) SNE Research, 2023 Next Generation Battery Seminar
3) Precedence research, recycled plastic market–global industry analysis, size, share, growth, trends, regional outlook, and forecast for 2023–2032.

DS Circular Economy Ecosystem



Sustainable Alternative Fuels

Bioenergy

DS DANSUK is expanding its biofuel market through its first export of bio marine fuel to Europe in 2022. To enter the HVO pre-treated oil market, we constructed a 300,000-ton annual capacity HVO-PTU process at Pyeongtaek Bio Plant 1 in September 2023, with completion expected in the second half of 2024. In addition, we plan to build a HVO plant from 2026 to simultaneously produce first- and second-generation bio diesel. By 2028, we are aiming to achieve the full-scale production of HVO and sustainable aviation fuel, along with the operation of gray and green hydrogen plants. Ultimately, by 2029, we are aiming to achieve a hydrogen cycle through the production and operation of fuel cells that will grow into a green energy company through phased investments.

2023~2025
Phase 1 Investment

- Construction of HVO Pre-treatment Plant (300,000 tons per year)

2025~2028
Phase 2 Investment

- Construction and full-scale production of HVO Plant (300,000-500,000 tons of sustainable aviation fuel per year)
- Construction of Gray/Green Hydrogen Plant (50,000 tons per year)

2028~2029
Phase 3 Investment

- Production and operation of fuel cells (300,000 MW per year)

* Producing clean electricity by combining hydrogen obtained from methane/LNG with oxygen

Lithium Ion Battery

Battery Recycling

DS DANSUK aims to expand its business into the LIB recycling sector based on the existing technology for recycling internal combustion engine vehicle batteries. As part of this effort, we have completed the construction of an LIB recycling plant to mass-produce Black Mass by recycling waste lithium-ion batteries. In response to increasing demand for recycling resources, we are considering securing additional LIB recycling plants in South Korea and Southeast Asian countries by 2026. Additionally, we plan to build Re-LFP cathode material and Re-NCM precursor plants to adapt to changes in secondary battery market trends.

2023~

- Establishing a domestic LIB recycling plant (8,000 tons of waste lithium-ion batteries per year / 5,000 tons of Black Mass per year)

2024~

- Establishing overseas LIB recycling plants (Malaysia and other Southeast Asian countries)
- Establishing an LFP cathode material plant

2025~

- Establishing a hydrometallurgical extraction plant (Li, Ni, Co, Mn)
- Establishing a Re-NCM precursor plant (utilizing recycled raw materials)

PCR Plastic

Plastic Recycling

Starting with the completion of the expansion of the DS E&E recycled plastic production plant in May 2024, DS DANSUK plans to expand its PCR plastic business by enhancing high-purity waste plastic separation and sorting technologies in response to strengthened plastic use regulations in the US, EU, and other regions. We plan to establish new plants at secured sites in Gunsan and other locations by 2027. After 2028, we aim to create an integrated platform for the PCR plastic business by exploring joint ventures overseas to source raw materials and expand the market.

2023~2025

- Acquisition and facility advancement of DS E&E (15,000 tons per year)

2026~2027

- Expansion of new plants in Gunsan (60,000 tons per year)

2028~

- Business expansion and establishment of overseas joint ventures (Dansuk Malaysia and others)

RISK MANAGEMENT

Risk Management

DS DANSUK continuously monitors environmental regulations and technological trends worldwide to prepare and respond to business-specific plans, aiming to advance as a global resource circulation company. We are proactively acquiring certifications that respond to changes in global industry trends and regulations as well as strengthening supply chains to ensure the smooth procurement of raw materials.

Bioenergy

In response to the global trend of transitioning to renewable energy, DS DANSUK is proactively acquiring overseas certifications to enhance product reliability and open new markets. Currently, domestic bio diesel is mandatorily blended at 4% with diesel fuel for transportation under the Renewable Fuel Standard. According to the government's plan to expand the use of eco-friendly biofuels, this mandatory blending ratio is expected to increase to 8% by 2030. Therefore, DS DANSUK is promoting stable business operations by strengthening partnerships with domestic and international oil refineries, expanding raw material supply chains, and maintaining and acquiring new certifications.

Current Overseas Certifications

EU	ISCC-EU Certification
Italy	GSE (Energy Services Manager) INS Certification
US	Registered Environmental Protection Agency, California LCFS, Oregon CFP
GLOBAL	ISCC-PLUS, ISCC-CORSIA PLUS Certification

Name	Type	Status	Location
DANSUK INDUSTRIAL CO., LTD	Diesel/Biodiesel	Active	#165 HYEOMNYEOK-RO GYEONGGI-DO, function c() {if(015087
PYEONGTAEK PLANT 1	Diesel/Biodiesel	Active	216, PYEONGTAEKHANGMAN-GIL GYEONGGI-DO, function c() {if(017958
PYEONGTAEK PLANT 2	Diesel/Biodiesel	Active	11, POSEUNGGONGDANSUNHWAN-RO GYEONGGI-DO, function c() {if(017958
JECHEON PLANT	Diesel/Biodiesel	Active	39 CHEONGPUNGHO-RO 24-GIL, GEUMSEONG-MYEON JECHEON-SI, function c(){if(027209

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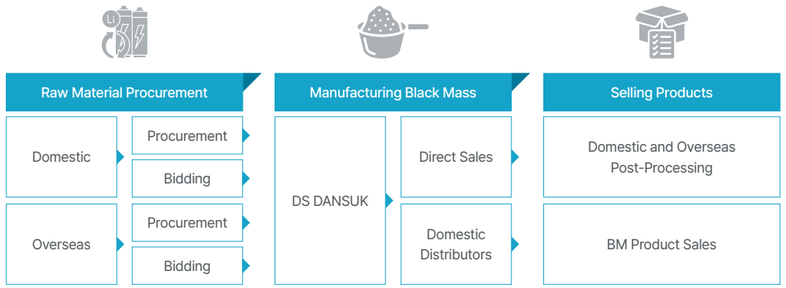
▲ EPA

Battery Recycling

With the growth of the LIB secondary battery market driven by global Net-Zero policies, the volume of waste batteries is expected to increase significantly by 2030. Additionally, the soaring prices of critical minerals required for LIB manufacturing, coupled with global supply chain risks, such as the US IRA and China's upstream dominance, are driving the growth of the LIB recycling industry. DS DANSUK plans to diversify its circular economy portfolio related to LIB recycling by leveraging its experience in building global supply chains and technology for recycling lead-acid batteries. With the completion of the LIB recycling plant in 2024, DS DANSUK will secure the process for extracting Black Mass, a fundamental raw material for LIB production. We plan to procure raw materials from battery manufacturers in South Korea, Europe, and North America by purchasing waste batteries and bidding for defective batteries.



PCR Certification

Certification for the use of recycled raw materials

Plastic Recycling

PCR plastic manufactured by DS Advanced Materials, a subsidiary of DS DANSUK, follows a circular structure by physically recycling waste plastic raw materials from everyday life into Virgin+Recycle or 100% Recycle products to meet customer demand. PCR plastic can reduce GHG emissions by 30–70% during plastic production and help decrease the amount of waste generated.

▲ ISCC-PLUS Certifications (PCR PP, PVC, PE)

▲ GRS Certifications (PCR PP, PE)

METRICS AND TARGETS

DS Business Innovation

DS DANSUK aims to lead the market as a global resource circulation specialist through innovations in recycling-based business models and technological development. To achieve this, we are pursuing R&D and process optimization related to resource circulation to foster sustainable development. DS DANSUK will continue to challenge by offering products and services that create sustainable value in the market.

Bioenergy

Regulations mandating sustainable aviation fuel are gradually being introduced, particularly in the EU and US. DS DANSUK is expanding its business to include next-generation bioenergy, specifically HVO, based on its technology for producing various types of bioenergy.

Development of HVO Refining and Production Technology

United States	Europe
• Discussions on mandatory sustainable aviation fuel blending are ongoing • Aim to fully replace aviation fuel by 2050	• Mandatory blending regulations introduced since 2021 • Aim to reach a 70% blending ratio for aviation fuel by 2050

- Establish pre-treatment plants to remove impurities from raw materials such as used cooking oil and palm residues
- Seize the next-generation bioenergy market, including sustainable aviation fuel, through HVO pre-treated oils and main production

HVO Business Plan

300KT CAPA	Target Business Model		
	Production of up to 300,000 - 500,000 tons of sustainable aviation fuel	Commercialization of by-product bionaphtha	Establishment of gray/green hydrogen plants (50,000 tons/year)
	HEFA SPK (A2(6-2011)) standard qualification	Construction of HVO plant starting in 2026	
Strength	Supply capability of pre-treatment raw materials specialized in HVO		
	Raw materials for production	UCO, residue of FAME end distillation, fatty acids, cashew nut shell liquid, POME, SBEO, food waste oil, etc.	
	Raw materials for sale		
Location	West Coast Industrial Belt		
	Hydrogen supply chain (Grey to Green)		
	Logistic hub utilizing the West Coast ports		

▲ Projected Plan of HVO-PTU and HVO Plant

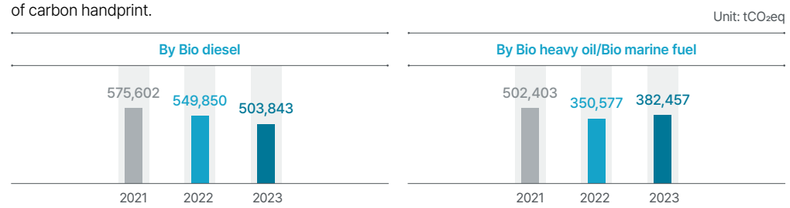
Integration of the Raw Material Tracking System

In the United States, the verification level of QAP Feedstock's Point of Origin has been strengthened. In Europe, the IT system "ISCC UDB" has been introduced to confirm the traceability of biofuel, enhancing the traceability of certified raw materials. In response, DS DANSUK has introduced an IT-based raw material tracking system for domestic waste cooking oil, which is the primary raw material for bioenergy. By integrating various "tagging" systems into different collection environments of waste cooking oil, we manage collection information such as the location and quantity of the point of origin as digital data. For overseas raw materials, we have applied the tracking system to animal fats, where integration was possible, linking certification information to raw material purchases to ensure traceability. In the future, we plan to expand the integration of the raw material tracking system by verifying and analyzing the collection environments and conditions of waste cooking oil and animal fats collected domestically and from Japan, China, and other countries.

Addressing Climate Change through the GHG Reduction from Biofuels

Since incepting its bio diesel business in 2007, DS DANSUK has reduced GHGs through eco-friendly businesses. We are proactively increasing bio diesel production and diversifying raw materials to respond to the growing demand from developed countries. From the initial production of palm oil-based fatty acid methyl ester bio diesel, we have secured the technology for producing 100% waste cooking oil-based bio diesel for the first time in Korea, maximizing the eco-friendly effect. In addition, by expanding the range of raw materials to include food waste oil and other by-products, we are leading the resource circulation market. As of 2023, we sold 350,328 tons of biofuels, which are estimated to have contributed to reducing GHGs by approximately 886,300 tCO_2eq in terms of carbon handprint.

Unit: tCO_2eq



* Source of reduction contribution calculation: ISCC-EU Methodology and others (data adjusted owing to changes in calculation standards).

Circular Economy System in the Bioenergy Business

DS DANSUK's bioenergy business has established a circular economy system that produces renewable energy by utilizing waste cooking oil and the by-products generated during the refining and use of various edible oils. Based on core technologies that diversify and apply raw materials in a limited raw material market, we aim to realize new businesses such as HVO and sustainable aviation fuel. By participating in global efforts to reduce GHGs, we will lead the creation of a resource circulation ecosystem.

Usage of Waste[1], Waste&Residue[2] Raw Materials

Unit: Ton

1) Waste : Materials discarded after fulfilling their intended use in everyday life or business activities
2) Residue : Low-grade fats or by-products generated from processing

Battery Recycling

DS DANSUK has established a circular economy system for metal resources by collecting waste lead-acid batteries from worldwide to produce recycled lead. The recycling market has recently expanded owing to the rapid growth in demand for creating new value through recycling, as the deposits of metals used in lithium batteries are becoming scarce. In response, DS DANSUK aims to grow into a secondary battery material company by advancing into the LIB recycling business based on its internal combustion engine battery recycling technology.

Development of LIB Recycling Technology

- Develop technology for LIB recycling to produce secondary battery materials
- Enhance the recycling ratio of metal materials through high-efficiency physical separation processes
- Generate new revenue by separating and extracting lithium from Black Mass to manufacture high-purity lithium compounds for secondary batteries

↓

Develop synthesis technology and processes for key LIB materials such as NCM precursors and LFP cathode (lithium iron phosphate) materials

Entry into the LIB Recycling Business

LIB Recycling Shredding and Separation Business
Completion of the LIB shredding and separation plant on the premises of the Gunsan Recycling Plant

Review of LIB Recycling Hydrometallurgical Processing Business
Major production products: lithium carbonate,nickel sulfate, cobalt sulfate, manganese sulfate

Review of LFP Cathode Material Manufacturing Business
Secure competitiveness by directly producing lithium carbonate, a component of LFP cathode materials

Review of NCM Precursor Manufacturing Business
Precursor manufacturing business utilizing nickel sulfate, cobalt sulfate, and manganese sulfate

Completion of the LIB Recycling Plant

- Completed on April 9, 2024
- Production of approximately 5,000 tons of Black Mass annually by crushing and separating about 8,000 tons of waste batteries from smartphones and electric vehicles
- Reviewing post-processing through hydrometallurgical refining and the lithium carbonate extraction process (separation of rare metals such as nickel, cobalt, and manganese from Black Mass)
- Aim to develop Re-NCM precursors and Re-LFP cathode materials

Plastic Recycling

Although plastic production and waste generation are increasing globally, the recycling rate is only 9%. The production of plastic from fossil fuels has caused significant environmental problems. As global interest in plastic recycling grows to prevent plastic pollution and reduce GHG emissions, DS DANSUK is promoting a PCR plastic business based on recycling and materialization technologies tailored to the characteristics of each type of plastic. We plan to expand the plastic recycling business based on high-purity plastic waste sorting and compounding technology using gravity, electrostatic, and color difference sorting techniques.

PCR Plastic Manufacturing Process

1. Collection of discarded recyclable products
2. Grinding the collected products into initial pellet form
3. Rinsing the pellet-shaped granules
4. Sorting and separating the pellets by type
5. Mixing with existing raw materials in appropriate proportions

PCR Plastic Business Plan

2023
- Acquisition of DS E&E (possessing waste plastic sorting technology)
- Continuous development of PCR plastic compounding products by DS Advanced Materials

2024~
- Upgrading DS E&E facilities (production scale of 15,000 tons/year)
- High-purity sorting/separation of ABS, PS, and PP

2026~
- Commencement of the second PCR plastic plant (production scale of 60,000 tons/year)

2028~
- Establishment of overseas joint ventures (other than Dansuk Malaysia)

METRICS AND TARGETS

DS Process Innovation

As a manufacturing company, DS DANSUK is promoting process innovation at each business site to ensure its sustainable growth. These activities aim to enhance manufacturing efficiency and build smart factories and eco-friendly workplaces. Through process innovation, DS DANSUK aims to strengthen its inherent competitiveness, while promoting sustainable development.

Process Innovation

DS HQ

Smart UCO Refining Process

- Maximizing raw material recovery and recycling from used cooking oil cans
- Installing drain openings in screws to increase raw material recovery rate (from 97.7% to 98.2%)
- Utilizing recovered cans (iron) as a substitute for pig iron raw materials at the Gunsan Recycling Plant, achieving zero waste from scrap metal

DS BIO

Energy Efficiency

- Introducing and operating the Smart Energy Management System (EnMS)
- Managing thermal efficiency through supply pressure adjustments, heat exchanger cleaning, steam trap replacement, and leak improvements

DS FINE

Utility Efficiency

- Gas: Operating a vent heat recovery system for the maturation reaction process
- Water: Reducing concentrate through CIP compared to R/O, optimizing wash water usage to decrease water consumption

DS RE

Dust Collector Enhancement

- Improving equipment operation efficiency and reducing environmental risks through the improvement of the dust collector system
- Reducing air consumption and NOx emission concentration through dust collector replacement and improvements

Smart UCO Refining Process

Automation of used cooking oil can raw material input →  → Can scrap shredding process →  → Scrapping shredded cans scrap →  → Utilization as a substitute for pig iron at the Gunsan Recycling Plant

METRICS AND TARGETS

Product Environmental Impact Management - LCA

DS DANSUK is committed to assessing and mitigating the environmental impact of its products or systems at all stages, from raw material extraction to disposal, through LCA. Recognizing the growing importance of GHG LCA education and monitoring, we have proactively signed an LCA consulting contract to comply with EU regulations and certifications, thereby establishing an LCA foundation. In the future, DS DANSUK plans to manage process-specific production data and utility usage for GHG calculations, conduct monthly and annual process-specific monitoring, and perform LCAs for all products. Additionally, following the collection of performance data for 2023, we aim to internally calculate LCA impact assessments using a sophisticated LCA tool developed to suit our specific needs.

Current Status of LCA Implementation

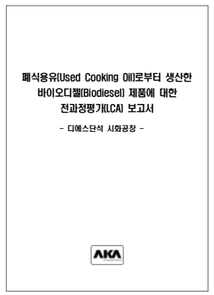
LCA Consulting Contract Signed (May 2023)	Data Collection and Analysis/ Verification by Process	Final Report Submission (June 2024)
• LCA analysis, education, and tool development • Target products and factories	• Based on 2022 performance data	• Life Cycle Assessment for target products • Development of LCA tool

Future Tasks and Goals

Annual management of process data performance	Monthly GHG monitoring by process	LCA impact assessment for all products

Target Products	Target Factories
Bio diesel	Sihwa Plant, Pyeongtaek Bio Plants 1 and 2
Recycled Plastic (PP)	DS Advanced Materials, Gunsan Recycling Plant (Point of Origin)

LCA Education	Understanding the basic structure of LCA and calculation methods
Detailed Content	1st Session: Define goals and scope
	2nd Session: Life Cycle Inventory Analysis
	3rd Session: Life Cycle Impact Assessment and usage of open LCA Program



▲ Final Report

DS STORY 03

Occupational Health and Safety Enhancement

DS DANSUK is committed to minimizing occupational health and safety risks across its operations by establishing and conducting a dedicated governance system and organization. This effort includes thorough preemptive measures and continuous improvement. With the increasing importance of corporate responsibilities owing to stricter occupational health and safety regulations and the implementation of the Serious Accidents Punishment Act, it is crucial to strengthen preventive health and safety activities and establish a meticulous accident response system. DS DANSUK strives to embed the values of health and safety into its corporate culture and management system, ensuring the well-being of all the employees and stakeholders involved.

UN SDGs

Goal 3.4
By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

Goal 8.4
Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10JYear Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.

Impact Level of Occupational Health and Safety on DS DANSUK

Governance

Under the leadership of the CEO in charge of compliance management, DS DANSUK operates a dedicated Safety and Health Team at the Sihwa Plant and environmental safety teams at each site. The Safety and Health Team at the Sihwa Plant acts as the headquarters overseeing health and safety initiatives. The major issues related to health and safety are reviewed and decided upon by the Occupational Health and Safety Committee.

Strategy

To internalize the health and safety management system, DS DANSUK has established five management policies and four operational objectives concerning health and safety. These "Health and Safety Goals and Management Policies" are published on our intranet and in locations easily accessible to employees and stakeholders. Annual evaluations of their appropriateness aim to ensure continuous improvement and enhancement.

Risk Management

DS DANSUK enforces and updates regulations on risk assessment to effectively manage workplace hazards. Since 2023, the Sihwa Plant has implemented a continuous risk assessment system that encourages all employees to actively identify and mitigate hazards. Weekly risk assessment meetings are held with stakeholders, led by the CEO in charge of compliance management, to address all potential risks. DS DANSUK also maintains ISO 45001 certification and regularly develops and reports on health and safety goals to strengthen internal and external risk management.

Metrics and targets

To achieve zero accidents, the Sihwa Plant set a KPI for 2024 to achieve a monthly "Health and Safety Activity Rate" of 2,500 or more. This quantitative performance management ensures consistent activities and focuses on health and safety initiatives.

Health and Safety Activity Rate

2023 Performance
2,145

2024 Goal
2,500

Health and Safety Budget

2023 Performance
1,471 Million KRW

2024 Goal
1,623 Million KRW

Major Accidents

2023 Performance
0.0%

2024 Goal
0.0%

GOVERNANCE

Health and Safety Management

DS DANSUK recognizes that safety incidents considerably threaten corporate sustainability. With this understanding, we support and encourage the establishment and operation of a robust occupational health and safety management system underpinned by the management team. The CEO(Compliance management) has been appointed as the Chief Safety Officer, conducting daily on-site inspections and receiving reports on health and safety logs to ensure immediate feedback from field observations. We maintain a cooperative labor–management relationship through the Occupational Health and Safety Committee. We have also formed a health and safety council with partner companies to jointly identify and mitigate on-site risks. To manage the blind spots in health and safety at each site, we have appointed a number of health and safety managers and conducted health and safety tasks primarily through dedicated departments. This organic and professional safety management system continues to strive for zero-accident workplaces.

Health and Safety Governance

Health and Safety Management System

CEO(Compliance management)	Occupational Health and Safety Committee	Partner Company Health and Safety Council
• Establish and approve health and safety plans • Support the operation of the Occupational Health and Safety Management System • Verify and approve necessary management measures to ensure compliance with health and safety obligations	• Quarterly meetings for labor-management opinions on health and safety issues • Deliberate and resolve on the enactment and revision of health and safety regulations • Review and resolve major health and safety matters and shared issues	• Monthly sharing of data on workplace hazards • Verify the implementation of health and safety measures

Dedicated Health and Safety Organizations

Sihwa Plant (HQ)	Pyeongtaek Bio Plant 1 & 2	Gunsan Recycling Plant	Gunsan Fine Chemicals Plant
Safety and Health Team	Environmental Safety Teams	Environmental Safety Team	Environmental Safety Team

Occupational Health and Safety Committee

DS DANSUK regularly convenes the Occupational Health and Safety Committee to deliberate and resolve health and safety issues and share relevant information. Historically, these meetings were held consecutively with the Labor–Management Council. Recently, however, meetings have been separated to allow for a more focused management of health and safety issues. This has also been supported by initiatives such as the Health and Safety Suggestion Box and Weekly Risk Assessment Meetings, which have reduced the number of immediate operational issues, enabling more concentrated communication. Every quarter, the Safety and Health Team conducts inspection visits to each plant to review compliance with the Occupational Safety and Health Act. They provide guidance to ensure that issues are addressed and support that the Occupational Health and Safety Committees at each plant focus on health and safety topics to facilitate practical operations.

Occupational Health and Safety Committee Activities

Category	Sihwa Plant	Gunsan Recycling Plant	Gunsan Fine Chemicals Plant	Pyeongtaek Bio Plants 1 and 2
Frequency	Quarterly			
Main Agendas	• Share major amendments and upcoming changes to the Occupational Safety and Health Act • Share changes and registrations of health and safety regulations • Encourage participation in occupational health consultations	• Discuss improvements for major production facilities • Address health and safety measures to prevent injuries from high-temperature work in summer • Share risk assessment progress and improvement results	• Identify risk factors through risk assessment • Discuss safety proposals • Communicate supervisor training content • Improve regular health and safety training	• Share inspection findings of the PSM report • Discuss the schedule for regular health and safety training • Review and distribute personal protective equipment suitability • Winter preparedness guidelines

Occupational Health and Safety Management System (OHSMS)

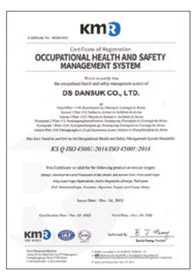
DS DANSUK maintains ISO 45001 certification for its Occupational Health and Safety Management System across all operations, continually striving to identify and mitigate hazards and risks. Following the Ministry of Labor's guidelines on the Industrial Safety and Health Act, the results of inspections by specialized health and safety agencies are reported to the CEO(Compliance management). To internalize the occupational health and safety management system, DS DANSUK has established Regulations on Measures to Secure Health and Safety Obligations, ensuring compliance and a reporting framework. To prepare for the Serious Accident Punishment Act, headquarters' Safety and Health Teams conduct quarterly self-inspections at each site. These self-inspections have been conducted since 2021 with each site's environmental safety and operational support teams. In 2024, with an increase in remote communication, a corporate groupware chat room will be established to foster the interest and participation of all employees.

Serious Accidents

0%

Occupational Health and Safety Management System Operation Procedure

Identify occupational health and safety risks and select key issues → Confirm compliance and implementation of the occupational health and safety → Monitor operational status and implement



Occupational health and safety management system certificates ▲

STRATEGY

Health and Safety Goals and Strategies

DS DANSUK aims to establish a responsible health and safety culture and create a work environment where safety is a top priority. To achieve this, we set four core goals for specific tasks. We plan to unify different health- and safety-related tasks across business sites to enhance health and safety management systems. Additionally, we aim to improve process safety management ratings by strengthening education and training. We also intend to develop and utilize specialized health and safety personnel for smart health and safety management. Furthermore, we will discover and host new health and safety culture programs to internalize a health and safety culture. Sustainable management can be practiced by clearly defining the direction of employee health and safety activities and improving health and safety performance.

Goals	Enhance the Health and Safety Management System	Improve Process Safety Management Ratings	Implement Smart Health and Safety Management	Establish a Health and Safety Culture
Strategic Tasks	Standardize health and safety tasks across all business sites	Strengthen education and training for process safety management	Develop and utilize specialized health and safety personnel and external human resources	Discover and host new health and safety culture programs
Main Initiatives	• Revise internal regulations and guidelines to standardize health and safety tasks across business sites. • Provide guidance and advice during self-inspections to ensure compliance with standardized formats.	• Enhance capabilities through specialized training for process safety management (PSM) professionals. • Conduct education and training on the 12 key action items for stakeholders.	• Strengthen external training for safety managers, health managers, and health and safety management officers. • Utilize external human resources from the community (e.g., physical therapists, occupational health instructors).	• Introduce government-supported free health buses. * Collaborate with the 'Jeongwang Health Center Occupational Health Management Team.' • Host tool box meeting (TBM) competitions. • Provide health and safety message cup holders.

RISK MANAGEMENT

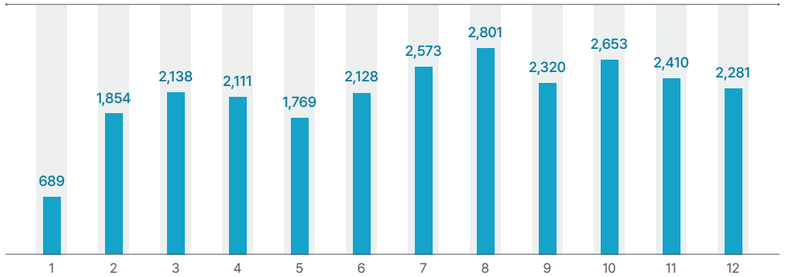
Health and Safety Risk Management

Risk Assessment

DS DANSUK is actively working to reduce its fatal accident rate by revising its risk assessment regulations and enhancing related activities. Since June 2023, the Sihwa Plant has introduced a continuous evaluation system for workplace risk assessment, which includes setting up a health and safety suggestion box, holding weekly risk assessment meetings, and maintaining communication channels for task-based management and supervisors to encourage worker participation. This proactive approach aims to identify and mitigate potential workplace hazards and risks. Other plants conduct annual risk assessments to establish and maintain health and safety processes, thereby reducing and managing employee risks. To sustain ongoing health and safety activities, a KPI for achieving a health and safety activity rate of 2,500 or more per month has been set for 2024, and efforts are being made to meet this target.

The Safety and Health Team at the Sihwa Plant also conducts health risk assessments, including a musculoskeletal risk assessment, commonly known as a musculoskeletal burden work hazard factor survey. These are conducted every three years in accordance with the regular survey schedule, with the latest survey expanding to include feeding employee and a security worker such as a cafeteria and security, following the latest trends in health and safety cooperation. Various work tools and protective equipment are available to prevent musculoskeletal disorders. During quarterly self-inspections, the Safety and Health Team offers advice on compliance with musculoskeletal regulations to the Environmental Safety Team or Business Support Teams at each plant.

Monthly Health and Safety Activity Rate in 2023[1)]



1) (Number of health and safety activities/total monthly working hours) * 1 Million hours

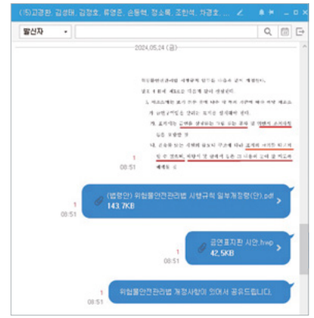
▲ Risk Assessment Meeting

▲ Hazard and Risk Factor Improvement Cases
- Preventing Slip Accidents in Parking Lots: Applied non-slip paint
- Preventing Vehicle Collisions at the Logistics Safety Office: Installed steel bollards

Health and Safety Communication

DS DANSUK operates various health and safety communication channels to create a safe workplace and enhance health and safety activities. Monthly group health and safety training sessions are held to share health and safety issues and move closer to establishing the "self-regulatory prevention system" emphasized by the Ministry of Employment and Labor. An anonymous suggestion box is available for anyone to report hazards and risks. Additionally, we organize and operate labor-management occupational health and safety committees and cooperative committees with partner companies in accordance with the Occupational Safety and Health Act. Weekly risk assessment meetings are held to discuss and share workers' health and safety suggestions. A real-time chat room is available for questions and materials such as serious accident case studies and seasonal safety guidelines are shared. These communication channels help build trust between labor and management regarding safe work environments and encourage the voluntary participation of all members, fostering a safer workplace.

Messenger for Safety Managers, Health Managers, and Supervisors ▼



Messenger for All Related Departments ▼

Health and Safety Proposal System

DS DANSUK has installed health and safety suggestion boxes in all workplaces to allow all employees to freely present their opinions on health and safety. The suggestion boxes are easily accessible, and each month, up to three outstanding suggestions are selected and rewarded to encourage active participation. Through this culture of communication and participation, employees identify workplace hazards and propose improvements, contributing to a zero-accident environment and fostering a mature health and safety culture.

Award for Outstanding Proposal ▼

▲ TBM

Continuous Communication

To enhance communication related to health and safety in the workplace, DS DANSUK supports the continuous expansion and operation of communication channels such as weekly risk assessment meetings and Tool Box Meetings (TBMs) at all business sites. Weekly risk assessment meetings are held with the participation of supervisors and production managers, allowing for cooperative improvements with related departments. Additionally, through TBMs at each site, supervisors gather and share issues raised by workers during weekends and shift work, ensuring that concerns are addressed and improvements are implemented.

METRICS AND TARGETS

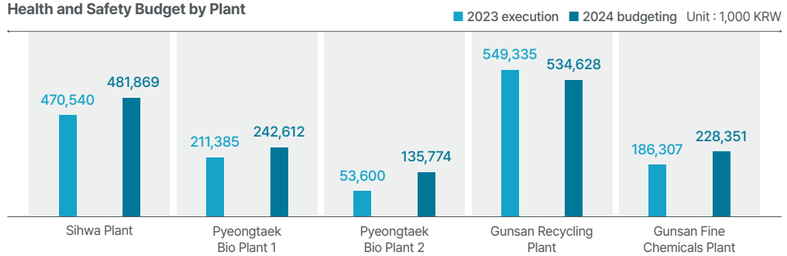
Strengthening Health and Safety Measures

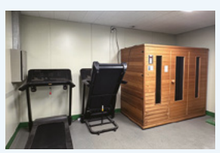
Establishing a Health and Safety Culture

DS DANSUK is committed to establishing a health and safety culture throughout the organization, with all members working together. The head of health and safety management at the Sihwa Plant, who is also the compliance management representative, proactively identifies risks by starting each day on site, ensuring that immediate actions are taken. Supervisors and production managers collaborate to make improvements. Concurrently, employees complete specialized training and conduct tool box meetings before each shift to identify and discuss hazards and safety measures. This approach encourages active participation in workplace health and safety activities. All employees adhere to legally mandated health and safety training hours. To enhance participation, risk assessment surveys and Occupational Health and Safety Committee questionnaires are distributed. Monthly awards for outstanding environmental safety teams have also been awarded. Furthermore, all workers are required to wear basic protective equipment when entering the site. The Safety and Health Team conducts regular inspections to ensure the proper use of protective equipment and provides guidance during these inspections. These activities aim to solidify a robust health and safety culture within DS DANSUK.

Under the Serious Accidents Punishment Act, companies must allocate and properly execute budgets for the provision of personnel, facilities, and equipment for health and safety and improve hazards and risk factors. DS DANSUK annually establishes and implements a budget and execution plan for health and safety to create a safe and comfortable working environment and manages monthly execution results. Based on the budget execution outcomes, we review performance and identify additional improvements, incorporating them into the following year's investment plans to ensure continuous investment in health and safety. In particular, the Gunsan Recycling Plant has invested in the safety management of the new LIB operation, equipping it with facilities to ensure worker safety and manage emergencies. For the LIB safety facilities, a thermal management system will be introduced to quickly detect early thermal runaway reactions. Additionally, specialized storage racks for LIBs will be installed to prevent fire from spreading and facilitate initial firefighting efforts.

Health and Safety Budget by Plant





Health and Safety Investment Status at the Gunsan Recycling Plant

DS DANSUK's Recycling Gunsan Plant has been expanding its investment in health and safety for production site workers. To improve the working environment and ensure worker safety, approximately 268 million KRW was invested in 2023 for risk assessment improvements, with 95 improvement activities carried out. These activities are continuously implemented with technical guidance and consulting from professional health and safety management organizations, rather than being conducted solely by the plant's responsible department. To enhance workers' safety awareness, proper safety protective gears are provided and strictly monitored. From a welfare perspective, the plant has also equipped the welfare building with showers, saunas, and exercise equipment to support employees' health and safety.

Employee Health Management

DS DANSUK operates various programs to prevent illnesses and manage the health of its employees, actively incorporating the relevant guidelines from the Korea Occupational Safety and Health Agency when conducting health assessments in accordance with the Occupational Safety and Health Act. Since 2022, we have discovered new risk groups by supporting cholesterol test costs to reflect all items of 'Cerebral Cardiovascular Disease Risk Assessment'. Additionally, for workers engaged in high-risk activities such as night and rotating shifts, the annual "Risk Assessment for Cardiovascular Disease" and "Job Stress Evaluation" are conducted at the recommended intervals. Starting in 2023, based on health examination results, all employees, including those identified as at high risk for cardiovascular disease and stress, are connected with external health professionals (e.g., occupational physicians and clinical psychologists from workers' health centers) for health consultations, thereby increasing their awareness of their health status. In 2024, DS DANSUK plans to expand the health promotion program, initially piloted at the Sihwa Plant, to other facilities to support the introduction of various health promotion activities.

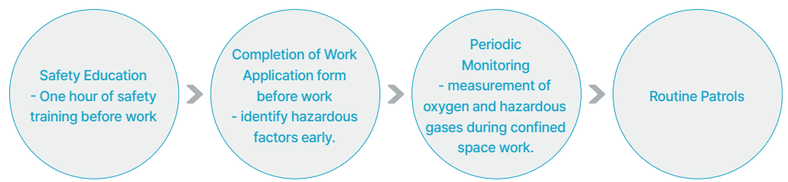
Partner Safety and Health Management

DS DANSUK has established health and safety management procedures for its partners to prevent accidents and promote the health of partner employees. We support our partners in establishing their own health and safety management plans through monthly health and safety committee meetings. Additionally, quarterly joint health and safety inspections are conducted to collaboratively identify hazardous factors and prevent accidents. Partners actively participate in DS DANSUK's health and safety suggestion system and weekly risk assessment meetings to create a safe and pleasant working environment. They also participate in emergency evacuation drills conducted at facilities to help prevent industrial accidents.

▼ Regular Health and Safety Committee Meetings

External Contractor Safety Work Permit Procedure

External Contractor Construction Process



Safety Incident Improvement Activities

DS DANSUK conducts regular inspections, training, and improvements to prevent accidents. To reinforce the commitment to achieving accident-, disaster-, and barrier-free workplaces, we organize a Safety Practice Resolution Conference. Various emergency evacuation drills and self-defense fire drills are conducted periodically based on different accident scenarios to minimize damage in the case of an incident. In addition, through the safety incident improvement suggestion system, employees who provide valuable opinions and solutions are rewarded, and these suggestions are used to identify and mitigate hazardous factors through a risk assessment.

▲ Fire Drill Emergency Evacuation

▲ Emergency Response Training

Step-by-Step Actions for Serious industrial Accidents

Gas Poisoning

Administer first aid, communicate the situation, and make emergency calls.

Fire/Explosion

Follow the internal firefighting team system for initial containment, conduct emergency calls if containment is difficult, and evacuate promptly.

Electric Shock

Disconnect the power source, check the victim's consciousness, administer CPR if necessary, and conduct emergency calls.

Fall/slip

Check consciousness, stabilize injuries with a splint, administer first aid, and conduct emergency calls

[Situation Communication] Communicate to all workers

Use voice or communication devices to inform all personnel about the emergency.

★ When reporting, provide reporter's name, accident details and situation, patient condition, and specific location)

→ [Stop Work] Cease operations and isolate the area.

→ [Initial Response] Provide immediate treatment to the affected personnel and transport them urgently to a hospital.

→ [Emergency Evacuation] If initial response is not feasible due to fire or explosion spread.

→ [Report] Notify supervisors, department heads, and the health and safety manager (in urgent cases, report first, then notify).

→ [Emergency Call] Contact the local fire department and labor authorities.

→ [Site Preservation] Preserve the accident scene until the investigation is complete.

→ [Accident Cause Investigation] Labor authorities will investigate to determine the cause.

→ [Risk Mitigation] Improve risk factors and establish measures to prevent recurrence.

Safety and Health Training

DS DANSUK continuously enhances health and safety training to improve employee safety management skills and promote a safety culture. Regular health and safety training mandated by the Occupational Safety and Health Act and other related laws, as well as specific safety training based on on-site needs, are conducted. Training materials are tailored to each site's characteristics, created by health and safety professionals, and delivered by qualified instructors who have completed specialized training at accredited institutions. In the future, DS DANSUK plans to invite external expert lecturers, which was paused due to COVID-19, to reinforce the quality of education. In addition, the Environmental Safety Teams at each site will utilize local community resources for training.

Health and Safety Training Operations

Category		Content	Remarks
Regular Health and Safety Training	Classroom Training	• Topics include industrial safety, accident prevention, risk assessment, and hazardous work environment management. Yearly training plan executed.	• 2 hours per month
	Experiential Training	• Includes CPR, AED training, and practical sessions on using air respirators and air-supplied masks.	• Conducted simultaneously with emergency evacuation drills • Summer training for managers and production supervisors
New Hire Training	Safety training for new employees	• Basic health and safety, handling hazardous substances, emergency procedures	• 8 hours for new employees
	Training on Material Safety Data Sheets (MSDSs)	• Covers the names of target chemicals, physical hazards, health risks, and handling precautions.	• The names of chemical substances for which material safety data sheets are to be created, how to understand material safety data sheets and their warning labels, etc. • Includes cardiovascular and health training
	Special Training for Specific Tasks	• Training on specific machinery such as forklifts and cranes • Manufacturing or handling of regulated substances • Training for working in confined spaces	• Includes training for process changes and new hires • Varies by workplace and process
Process Safety Management	Process Safety Management Training	• Covers safety documentation, risk assessment, safe operation guidelines, emergency plans, and action tasks. Yearly training plan executed.	• At least 1 hour per quarter
Other	Legal Job Training	• Practical and intensive training on fire and hazardous materials management • New and refresher training for health and safety management personnel	• 6 hours of practical training for fire safety managers

ESG Performance

Environmental

DS DANSUK recognizes that climate change has a wide range of impacts on ecosystems, economy, society, and other areas. Therefore, in addition to expanding our green businesses, we strive to minimize the environmental impact of our business activities through direct environmental management practices.

Background

Corporate environmental management goes beyond mere regulatory compliance; it has become a necessary condition for ensuring the sustainability of both humanity and businesses through systematic organizational operations and management. DS DANSUK is focusing on eco-friendly businesses that contribute to GHG reduction through bioenergy and recycling waste resources into valuable resources. We are establishing a company-wide management system that addresses environmental issues throughout the production process.

Our Strategy

- Increasing our contribution to reducing GHGs through the expansion of sustainable biofuel production
- Recycling waste materials based on resource circulation
- Systematizing environmental management goals and strategies
- Customizing environmental management activities to each business site

Environmental Issues

- Environmental management organization and eco-friendly investments
- Minimization of environmental impact
- Environmental improvement activities

UN SDGs

Environmental Management System

Environmental Policy

DS DANSUK is committed to fulfilling its corporate responsibility for a sustainable environment by establishing environmental management standards as a global resource recycling expert. We have developed quantifiable and measurable environmental policies. In line with these policies, we have increased investment in new pollution control facilities at each plant, focusing on reducing pollutants. We plan to extend the waste monitoring system, which manages waste intake and output digitally, from the Gunsan Recycling Plant to the Sihwa Plant and Pyeongtaek Bio Plant 1.

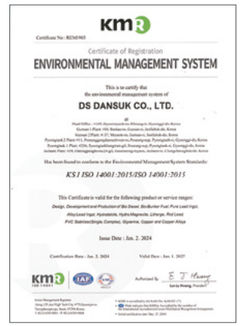
Environmental Management System

Recognizing the importance of environmental management, DS DANSUK aims for green management under its environmental policy, striving to manage regional environmental pollution and biodiversity. To minimize pollution from production activities, we have systematically conducted environmental management across all domestic business sites by acquiring certifications from the International Organization for Standardization's environmental management system.

ISO 14001 Environmental Management Systems

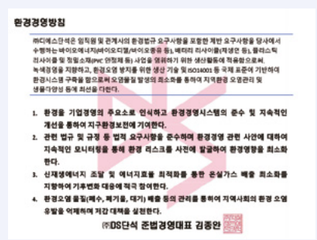
Certified Business Sites	Sihwa Plant, Gunsan Recycling Plant, Gunsan Fine Chemicals Plant, Pyeongtaek Bio Plant 1, Pyeongtaek Bio Plant 2, Jecheon Bio Plant
Scope of Certification	bio diesel, bio heavy oil, refined lead, alloy lead, hydrotalcite, hydro magnesite, litharge, red lead, PVC stabilizers (basic, one-pack), glycerin, design, development, and production of copper and copper alloys

▼ Environmental Management System Certification



Environmental Management Policy

DS DANSUK has established an environmental management policy, demonstrating its commitment to green management by applying the environmental regulatory requirements to all its production activities. We implemented production technologies and environmental systems based on international standards like ISO 14001 to minimize pollutant emissions. We adhere to and continuously improve the environmental management system through regular monitoring to identify and mitigate environmental risks proactively. Additionally, by procuring renewable energy and optimizing energy efficiency, we aim to reduce GHG emissions. Our policy includes measures to manage and minimize the release of environmental pollutants, thus preventing and mitigating environmental pollution in local communities.



▲ Application of Advanced Stormwater Manhole Pollution Early Detection System

▲ Installation of New Prevention Facilities in Biofuel Manufacturing

Environmental Facility Investment

DS DANSUK incorporates environmental risk assessments into decision-making during the review process for new business and facility investments. Machinery and infrastructure investments have been made to prevent environmental pollution. This includes improving and expanding existing environmental protection facilities and constructing new facilities to mitigate environmental risks. For example, an advanced stormwater manhole pollution early detection system prevents potential pollutant discharge by having stormwater pass through a tank equipped with oil, pH, and water level sensors before its release. Additionally, new prevention facilities (direct combustion units) have been installed in biofuel manufacturing processes to minimize pollutant emissions and protect the environment. Investments in environmental facilities also include installing solar panels and expanding the waste vehicle license plate checking system.

Environmental Training

DS DANSUK conducts quarterly environmental education sessions to enhance its personnel's environmental management capabilities and expertise. The curriculum includes both theoretical instruction and practical field training, covering a broad spectrum of environmental topics such as air and water quality, waste management, and hazardous chemicals. To ensure a comprehensive understanding and preparedness, the training includes simulations of real-world scenarios. In the second half of 2024, the program will expand to include office employees, focusing on evacuation drills for hazardous chemical incidents. These sessions will emphasize evacuation procedures and communication, tailoring training to the specific roles and responsibilities of each participant.

Environmental Training Curriculum

Quarter	Topic	Method	Participants	Duration per Person
Q1	Loading and Unloading Hazardous Chemicals	Classroom	Production Workers	1 hour
Q2	Waste Recycling and Disposal	Classroom	Production Workers	1 hour
Q3	Operating Air Pollutant Prevention Facilities	Classroom	Production Workers	1 hour
Q4	Water Usage and Wastewater Disposal	Classroom	Production Workers	1 hour


폐기물처리업체 조사표

▲ Sample Waste Disposal Company Survey Form

Environmental Compliance

DS DANSUK has established a management system to comply with domestic and international safety, health, and environmental regulations. Regular site inspections and evaluations are conducted to strengthen partner companies' environmental management practices. During these evaluations, various aspects are checked, such as compliance with Waste Management Act, the capacity to handle waste, and the impact on the surrounding environment during waste disposal. This proactive approach helps identify environmental risks early, and external experts are consulted as needed to prevent violations of environmental laws and accidents. An annual visit is conducted to waste disposal companies to verify the legality of waste disposal procedures and any potential environmental pollution during processing. Based on the results of these environmental evaluations, decisions are made on the continuation of contracts with such companies.

Minimizing Environmental Impacts

Hazardous Chemicals

DS DANSUK strictly manages the entire process of handling hazardous chemicals, from their introduction to their final disposal, to mitigate risks across all business operations. We adhere to domestic and international chemical regulations, including the Chemical Substance Control Act. Hazardous chemicals are transparently disclosed and managed through safety inspections conducted by supervisors before incoming and outgoing. MSDSs are accessible in relevant office areas to ensure easy access to information. Regular inspections are carried out to prevent and respond to chemical spills, and all employees, including new hires, receive training on the safe handling and management of hazardous chemicals and emergency response procedures to enhance their emergency response capabilities.

Hazardous Chemical Training

Topic	Training on handling hazardous chemicals
Content	Training on manufacturing or handling permitted and controlled hazardous substances, including safety guidelines during handling
Method	Online + classroom training
Participants	Employees handling hazardous chemicals
Duration per Person	16 hours

Documentation and Management of MSDSs

DS DANSUK employs a systematic approach to manage hazardous chemicals by appointing in-house hazardous material managers and establishing internal hazardous material management regulations. These regulations guide the analysis and management of potential hazards throughout the lifecycle of chemical substances—manufacturing, usage, import, and sale—handled across all business sites. We regularly review and update the MSDSs to reflect any changes in regulations or amendments to existing documents. The updated MSDS information and regulatory changes are promptly communicated to handlers and relevant partners.

In-house hazardous material managers systematically analyze the environmental, safety, and health risks associated with hazardous chemicals and ensure that these substances are registered with the relevant authorities. Before using new chemicals, DS DANSUK ensures that the corresponding MSDS is obtained to understand their hazards. Any changes are immediately communicated to the relevant departments and handlers to maintain high safety and compliance standards.

MSDS Documentation and Management System

Raw Materials

Purchase	• Obtain MSDS and related documents from new suppliers. • Maintain the latest MSDS versions for all raw materials. • Register directly imported raw materials with the Korea Occupational Safety and Health Agency.
Safety, Health, Environment, Quality	• Confirm and update the latest MSDS versions. • Verify hazards according to relevant regulations (Industrial Safety and Health Act, Hazardous Substances Control Act, etc.). • Update contents in the on-site MSDS storage. • Educate handling workers.
Production	• Maintain and manage on-site MSDS storage. • Ensure workers are familiar with the MSDS.

Finished Products

R&D Quality	• Obtain MSDS and related documents upon new registration. • Maintain the latest MSDS versions for all products. • Register DS DANSUK production with the Occupational Safety and Health Agency.
Safety, Health, Environment, Quality	• Update to the latest versions. • Verify hazards according to relevant regulations. • Update contents in the on-site MSDS storage. • Educate handling workers. • Provide chemical (hazard) information as partner's request.
Customers	• Provide the latest MSDS versions. • Provide chemical (hazard) information as user's request.

Accident Prevention

In response to the increase in chemical accidents in Korea and resulting stricter government regulations, DS DANSUK conducts employee training on chemical substances to prevent environmental accidents and enhance response capabilities. To prevent hazardous chemical accidents, additional CCTV cameras and hazardous chemical managers have been placed to establish a thorough management system. We participate in local councils to conduct additional monthly safety inspections and share the results. All sites conduct quarterly inspections and improvements to emergency toolkits to ensure immediate response capabilities in the case of an accident. We also take out environmental liability insurance to address environmental pollution accidents and provide compensation to victims. Daily patrols on day and night shifts are conducted to check sites and eliminate risk factors. We plan to provide workers with hazardous chemical handling education and review permit requirements to prevent accidents in the handling of hazardous chemicals during the import and export processes. We will continue to periodically revise the response manuals to ensure compliance with strengthened legal standards for related substances and facilities. In addition, more isolation equipment, protective gear, and emergency response chemicals will be purchased to minimize damage in the event of a hazardous chemical leak.

Emergency Response Measures

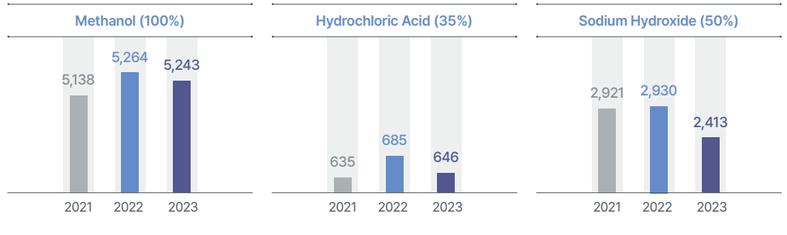
DS DANSUK has established an emergency organization, and we conduct annual evacuation drills to ensure a smooth response in the event of a chemical accident. Upon the occurrence of an accident, the details are immediately communicated to the safety manager, who then informs all emergency response teams about the situation. The safety of employees and all on-site personnel is prioritized, with non-emergency staff gathering at designated locations before evacuation to a safe area. Disaster response and firefighting teams use prepositioned emergency equipment to prevent the spread of pollutants outside facilities. Depending on the severity of the incident, the fire department and disaster response center are promptly notified to deploy specialized personnel and prevent further escalation.

Hazardous Chemical Management Status

DS DANSUK ensures that all employees are well acquainted with hazardous chemicals and emergency response measures through regular inspections and training. We can achieve zero chemical accidents by managing MSDSs onsite, ensuring proper storage, and conducting regular checks. We are operating a system in which the hazardous chemical management log, traditionally handwritten by each responsible person, is checked in real time and shared on a server via a mobile app. Additionally, we are improving the system to match vehicle numbers with driver information to more accurately track external personnel and minimize casualties in the case of an accident. Moving forward, we plan to digitize and automate existing paper documents such as the hazardous chemical management and entry logs for more efficient management. Continuous training should be provided to establish safer workplaces.

Usage of Hazardous Chemicals

Unit: Ton



Information for Hazardous Chemicals

DS DANSUK displays MSDS labels at each storage facility and places MSDS boxes along the pathways used by workers in various processes. We also share information on the types and hazards of hazardous chemicals and emergency instructions with neighboring businesses to raise awareness of the potential risks outside our facilities. Moreover, we regularly update the toxicity information of lead compounds and revise the MSDS accordingly. This updated information is also shared with our suppliers to ensure the safety of all users and minimize the hazards associated with these chemicals.

Water Resources

With the occurrence of extreme weather events and unprecedented droughts or floods worldwide, the responsible management of water usage and pollution is a critical task for both corporations and individuals. DS DANSUK intensively manages water usage to reduce the excessive use of finite water resources and maximize water reuse rates to save and secure stable water.

Water Resource Management

DS DANSUK recognizes the importance of water resources and strives to ensure a stable water supply by evaluating the potential environmental impacts and improving processes to reduce water usage. Specifically, at the Gunsan Recycling Plant, we comply with integrated environmental permits by analyzing 45 items quarterly to minimize pollutants. In addition, we are considering the installation of oil/water separators and barriers to prevent environmental accidents.

Site	Contents
Sihwa Plant	• Regularly measures 16 types of pollutants at the stormwater discharge outlets to the sea. • Installs and monitors valves to block hazardous substances and pollutant detection systems at discharge outlets 24/7. • Periodically cleans wastewater collection tanks to prevent anaerobic conditions and sediment formation in the wastewater.
Gunsan Recycling Plant	• Monitors the daily usage of industrial water used in the processes. • Treats the generated wastewater through physical and chemical processes before it enters the public sewage treatment plant and ultimately discharges into the sea. • Uses aqua filter systems to purify pollutants from non-point sources.
Gunsan Fine Chemicals Plant	• Classifies and performs chemical or physical treatments based on the quality of the discharged water. • Improves internal conditions by dredging the wastewater collection and discharge tanks. • Installs automatic sluice gates at non-point source locations based on pH sensor readings.
Pyeongtaek Bio Plants 1 and 2	• Monitors daily water usage to reduce water consumption. • Reuses wastewater generated from processes to reduce the annual wastewater generation compared with the previous year.

Management of Water Usage by Plant

DS DANSUK monitors 100% of the water used in each process through water resource risk management, ensuring appropriate water usage through the quality control of incoming raw materials. DS DANSUK identifies and improves water usage patterns to reduce consumption by monitoring daily usage. Wastewater generated from these processes can be reused to reduce wastewater and water usage. Furthermore, we focus on improving wastewater treatment efficiency to reduce pollution and continually explore ways to minimize wastewater generation by reviewing the reasons for fluctuations in wastewater volume.

Unit: Ton

Category	Sihwa Plant	Gunsan Recycling Plant	Gunsan Fine Chemicals Plant	Pyeongtaek Bio Plant 1	Pyeongtaek Bio Plant 2
Water Intake	156,179	154,066	348,647	125,965	66,825
Water Discharge	46,860	137,623	307,865	3,292	1,147
Water Consumption	109,319	16,443	40,782	122,673	65,678
Wastewater Generation	46,860	137,623	307,865	3,292	1,147

Management of Water Pollutants

DS DANSUK sets the measurement frequency for pollutants to four times the legal requirement, measuring at least once a quarter. This approach allows us to understand the wastewater pollution from raw materials and analyze the characteristics of the wastewater generated from different waste materials. Wastewater with low pollution levels is reused within the process, such as the initial washing water, to increase its reuse. At Pyeongtaek Bio Plant 1, the regular dredging and cleaning of oil/water separators and stormwater drains are conducted to prevent the discharge of water pollutants from the plant. At the Gunsan Fine Chemicals Plant, the continuous inflow and outflow of wastewater are managed to improve the efficiency of wastewater treatment. The periodic replacement of filter media, equipment inspections, and maintenance of spare parts ensure the strict management of 53 specific water pollutants, including SS, BOD, TOC, TN, and TP, to meet discharge standards.

Site	Site Scale	Wastewater Prevention Facility Status
Sihwa Plant	Class 4	• All wastewater co-treated • Collection tank capacity: 1,400 tons
Gunsan Recycling Plant	Class 3 (Special)	• Wastewater treatment method: Physicochemical treatment • Treatment capacity: 800 tons/day
Gunsan Fine Chemicals Plant	Class 1 (Special)	• Wastewater treatment method: Physicochemical treatment • Treatment capacity: 3,100 tons/day
Pyeongtaek Bio Plant 1	Class 5	• All wastewater outsourced for treatment (Collection tank capacity: 320 tons)
Pyeongtaek Bio Plant 2	Class 5	• All wastewater outsourced for treatment (Collection tank capacity: 280 tons)
Jecheon Bio Plant	Class 5	• All wastewater outsourced for treatment (Collection tank capacity: 256 tons)

Water Stress

DS DANSUK manages direct water resource risks by checking the water intake from water-stressed regions across all domestic plants and monitoring risk indicators for plants located in areas with high water stress indices. According to the "Aqueduct Water Risk Atlas" published by the World Resources Institute, which categorizes water stress into five levels, the Gunsan Recycling Plant and Gunsan Fine Chemicals Plant are identified as being in high-risk areas. Considering environmental factors, DS DANSUK establishes water stress risk management and response strategies for major plants to reduce water usage and expand recycling methods.

https://www.wri.org/applications/aqueduct/water-risk-atlas

* Water Stress

Low (<10%)	Low to medium (10~20%)	Medium to high (20~40%)	High (40~80%)	Extremely high (>80%)

* Water Stress Index by Plant

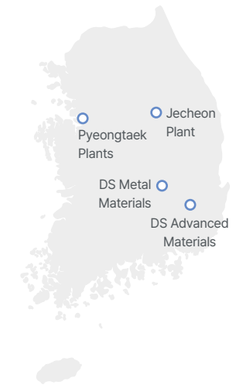
Sihwa Plant	Medium to high (20~40%)	Jecheon Bio Plant	High (40~80%)
Seoul Office	Medium to high (20~40%)	DS Advanced Materials	Medium to high (20~40%)
Gunsan Recycling Plant	High (40~80%)	DS Metal Materials	Medium to high (20~40%)
Gunsan Fine Chemicals Plant	High (40~80%)	HIVE	Medium to high (20~40%)
Pyeongtaek Bio Plant 1	Medium to high (20~40%)	DS E&E	Medium to high (20~40%)
Pyeongtaek Bio Plant 2	Medium to high (20~40%)	DS WOOIL BIO	Medium to high (20~40%)

Biodiversity

DS DANSUK is committed to preserving the natural environment and biodiversity around its business sites. Based on the third revision of the endangered wildlife list from the Ministry of Environment on December 9, 2022, DS DANSUK identifies the status of endangered species and enhances management activities accordingly. We aim to identify the plants affecting biodiversity and the species impacted as well as conduct protection and restoration activities to preserve biodiversity and minimize ecological damage.

Endangered Species by Business Site

Site	Endangered Species	Legend
Siheung-si, Gyeonggi-do (Sihwa Plant)	[Class 1] • Birds (3 species): Chinese egret, black-faced spoonbill, stork • Amphibians/Reptiles (1 species): Suwon tree frog [Class 2] • Birds (8 species): Saunder's gull, oystercatcher, Eurasian spoonbill, vulture, Eurasian hobby, far eastern curlew, tundra bean goose, long-billed plover • Amphibians/Reptiles (2 species): Seoul frog, boreal chorus frog • Insects (1 species): bekko tombo • Invertebrates (1 species): milky fiddler crab • Terrestrial plants (1 species): prickly waterlily	• Birds 11 species (out of 69) • Amphibians/Reptiles 3 species (out of 8) • Insects 1 species (out of 29) • Invertebrates 1 species (out of 32) • Terrestrial plants 1 species (out of 92) **Total 17 species (out of 282)**
Seocho-gu, Seoul (Seoul Office)	[Class 1] • Birds (4 species): Chinese egret, black-faced spoonbill, stork, white-tailed eagle • Amphibians/Reptiles (1 species): Suwon tree frog [Class 2] • Mammals (2 species): marten, leopard cat • Birds (13 species): Eurasian spoonbill, vulture, watercock, peregrine falcon, Eurasian sparrowhawk, Eurasian hobby, Eurasian eagle-owl, white-naped crane, Japanese sparrowhawk, Eurasian goshawk, tundra bean goose, upland buzzard, long-billed plover • Amphibians/Reptiles (3 species): Seoul frog, Chinese pond turtle, boreal chorus frog • Insects (1 species): Cigaritis takanonis	• Mammals 2 species (out of 20) • Birds 17 species (out of 69) • Amphibians/Reptiles 4 species (out of 8) • Insects 1 species (out of 29) **Total 24 species (out of 282)**
Gunsan-si, Jeonbuk State (Gunsan Plants)	[Class 1] • Mammals (1 species): otter • Birds (6 species): Chinese egret, black-faced spoonbill, Nordmann's greenshank, mute swan, stork, white-tailed eagle • Amphibians/Reptiles (1 species): Suwon tree frog • Invertebrates (1 species): cockscomb pearl mussel [Class 2] • Mammals (1 species): leopard cat • Birds (29 species): peregrine falcon, saunder's gull, oystercatcher, yellow-breasted bunting, black paradise flycatcher, Eurasian spoonbill, vulture, yellow bunting, osprey, oriental honey buzzard, Chinese sparrowhawk, great knot, Japanese night heron, Eurasian sparrowhawk, Eurasian hobby, Styan's grasshopper warbler, kite, Ochre-rumped Bunting, Eurasian eagle-owl, pied harrier, far eastern curlew, owl, hen harrier, Japanese sparrowhawk, Eurasian goshawk, whooper swan, tundra bean goose, fairy pitta, hooped crane • Amphibians/Reptiles (2 species): Seoul frog, boreal chorus frog • Invertebrates (1 species): milky fiddler crab • Terrestrial plants (3 species): prickly waterlily, northern water hemlock, water sprite	• Mammals 2 species (out of 20) • Birds 35 species (out of 69) • Amphibians/Reptiles 3 species (out of 8) • Invertebrates 2 species (out of 32) • Terrestrial plants 3 species (out of 92) **Total 45 species (out of 282)**



Site	Endangered Species	Legend
Pyeongtaek-si, Gyeonggi-do (Pyeongtaek Plants)	[Class 1] • Mammals (1 species): otter • Birds (3 species): black-faced spoonbill, Nordmann's greenshank, White-tailed eagle • Amphibians/Reptiles (1 species): Suwon tree frog [Class 2] • Mammals (2 species): marten, leopard cat • Birds (15 species): peregrine falcon, Saunder's gull, oystercatcher, Eurasian spoonbill, vulture, Chinese sparrowhawk, great knot, Eurasian sparrowhawk, Eurasian hob, Eurasian eagle-owl, far eastern curlew, hen harrier, Eurasian goshawk, whooper swan, tundra bean goose • Amphibians/Reptiles (1 species): Seoul frog	• Mammals 3 species (out of 20) • Birds 18 species (out of 69) • Amphibians/Reptiles 2 species (out of 8) **Total 23 species (out of 282)**
Jecheon-si, Chungcheong-buk-do (Jecheon Plant)	[Class 1] • Mammals (2 species): Siberian musk deer, otter • Insects (1 species): Shijimaeoides divina [Class 2] • Mammals (2 species): marten, leopard cat • Birds (8 species): black woodpecker, oriental honey buzzard, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, Eurasian eagle-owl, Eurasian goshawk, billed plover • Amphibians/Reptiles (1 species): Korean rat snake • Fish (1 species): Acheilognathus signifer • Insects (4 species): Haplotropis brunneriana, Cigaritis takanonis, Copris tripartitus, Fabriciana nerippe • Terrestrial plants (6 species): wonder violet, Korean monkshood, Paeonia obovata, watershield, Pedicularis ishidoyana, Viola websteri Hemsl	• Mammals 4 species (out of 20) • Birds 8 species (out of 69) • Amphibians/Reptiles 1 species (out of 8) • Fish 1 species (out of 29) • Insects 5 species (out of 29) • Terrestrial plants 6 species (out of 92) **Total 25 species (out of 282)**
Yeongcheon-si, Gyeongsang-buk-do (DS Advanced Materials)	[Class 1] • Mammals (1 species): otter • Fish (2 species): Korean stumpy bullhead, niwaella [Class 2] • Mammals (3 species): marten, leopard cat, Siberian flying squirrel • Birds (10 species): peregrine falcon, vulture, osprey, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, hen harrier, upland buzzard, fairy pitta, long-billed plover • Insects (1 species): diving beetle • Terrestrial plants (2 species): prickly waterlily, Cypripedium macranthos	• Mammals 4 species (out of 20) • Birds 10 species (out of 69) • Fish 2 species (out of 29) • Insects 1 species (out of 29) • Terrestrial plants 2 species (out of 92) **Total 19 species (out of 282)**
Gumi-si, Gyeongsang-buk-do (DS Metal Materials)	[Class 1] • Mammals (1 species): otter • Birds (2 species): red-crowned crane, white-tailed eagle [Class 2] • Mammals (2 species): marten, leopard cat • Birds (11 species): vulture, osprey, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, white-naped crane, hen harrier, Eurasian goshawk, whooper swan, tundra bean goose, long-billed plover • Amphibians/Reptiles (4 species): Korean rat snake, Chinese pond turtle, boreal chorus frog, Mongolia racerunner • Insects (1 species): Macromia daimoji Okumura • Terrestrial plants (2 species): prickly waterlily, Aconitum austrokoreense Koidz	• Mammals 3 species (out of 20) • Birds 13 species (out of 69) • Amphibians/Reptiles 4 species (out of 8) • Insects 1 species (out of 29) • Terrestrial plants 2 species (out of 92) **Total 23 species (out of 282)**

Site	Endangered Species	Legend
Wonju-si, Gangwon State (HIVE)	[Class 1] • Mammals (2 species): otter, little tube-nosed bat • Birds (3 species): swan, scaly-sided merganser, white-tailed eagle • Amphibians/Reptiles (1 species): Suwon tree frog [Class 2] • Mammals (4 species): marten, leopard cat, brown long-eared bat, Siberian flying squirrel • Birds (13 species): black paradise flycatcher, black woodpecker, osprey, oriental honey buzzard, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, Eurasian eagle-owl, owl, hen harrier, Eurasian goshawk, whooper swan, long-billed plover • Amphibians/Reptiles (1 species): boreal chorus frog • Fish (4 species): Gobiobotia macrocephala, Gobiobotia brevibarba, Acheilognathus signifer, Rhodeus pseudosericeus • Terrestrial plants (3 species): Siberian ginseng tree, Aster altaicus, Cypripedium macranthos	• Mammals 6 species (out of 20) • Birds 16 species (out of 69) • Amphibians/Reptiles 2 species (out of 8) • Fish 4 species (out of 29) • Terrestrial plants 3 species (out of 92) **Total 31 species (out of 282)**
Haman-gun, Gyeongsang-nam-do (DS E&E)	[Class 1] • Mammals (1 species): otter • Fish (1 species): Gobiobotia naktongensis [Class 2] • Mammals (3 species): marten, leopard cat, little tube-nosed bat • Birds (7 species): vulture, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, tundra bean goose, fairy pitta, long-billed plover • Insects (3 species): Macromia daimoji Okumura, bekko tombo, Copris tripartitus Waterhouse • Terrestrial plants (2 species): prickly waterlily, Aconitum austrokoreense Koidz	• Mammals 4 species (out of 20) • Birds 7 species (out of 69) • Fish 1 species (out of 29) • Insects 3 species (out of 29) • Terrestrial plants 2 species (out of 92) **Total 17 species (out of 282)**
Cheongyang-gun, Chungcheong-nam-do (DS WOOIL BIO)	[Class 1] • Mammals (1 species): otter • Birds (1 species): stork • Fish (1 species): Iksookimia choii [Class 2] • Mammals (3 species): marten, leopard cat, Siberian flying squirrel • Birds (14 species): black paradise flycatcher, vulture, osprey, Chinese sparrowhawk, Eurasian sparrowhawk, Eurasian hobby, Eurasian eagle-owl, owl, white-naped crane, Eurasian goshawk, Tundra bean goose, upland buzzard, fairy pitta, long-billed plover	• Mammals 4 species (out of 20) • Birds 15 species (out of 69) • Amphibians/Reptiles 1 species (out of 8 species) • Fish 2 species (out of 29 • Insects 1 species (out of 29) **Total 23 species (out of 282)**

Local Environmental Pollution Management

At the Sihwa Plant, DS DANSUK participates in the Pureumi Working Group engaging in sustainable environmental clean-up campaigns. These activities include collecting trash in the Gomsolnuri Forest and Okgu Stream area in Siheung-si, contributing to the preservation of the ecosystem. DS DANSUK continues to strive to minimize the impact on biodiversity and conserve habitats for endangered species through various methods tailored to their characteristics.

Pureumi Working Group Activities ▶

Waste

DS DANSUK rigorously manages the entire process of waste generation and disposal to minimize the environmental impact of waste from its operations. We are committed to reducing waste generation and ensuring its proper disposal. For instance, DS DANSUK is expanding its circular economy through waste recycling by repurposing by-products from the bio diesel production process as raw materials for the bio heavy oil process. According to the Waste Control Act, we strengthen the separation and storage of general and designated wastes, appropriately managing waste discharge and treatment volumes through the "Allbaro" system. Furthermore, DS DANSUK prioritizes selecting recycling treatment companies and continuously manages them to improve the recycling rate of synthetic resins, wastewater treatment sludge, and other waste materials. At the Gunsan Recycling Plant, the moisture content in the sludge waste(PE) generated from the battery crushing and separation processes is 50%, leading to an increase in waste volume. We plan to replace the existing dewatering facilities and install additional physical dewatering and shredding equipment to reduce the moisture content in PE from 50% to 30%.

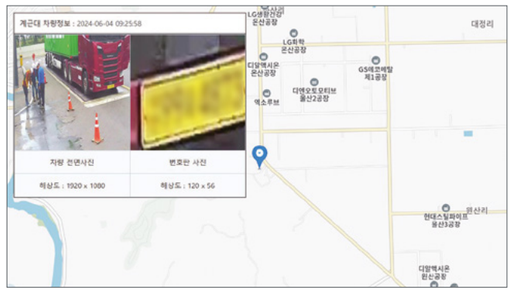
Waste Management Activities by Plant

Site	Activities
Sihwa Plant	• Established a waste recycling process, reducing residual general waste by 400 tons and designated waste oil by 100 tons compared to the previous year. • Added CCTV to waste storage areas and relocated them closer to processing areas to prevent external leakage accidents. • Designated colors for waste input ports and pipes to prevent mistakenly mixing waste.
Gunsan Recycling Plant	• Prevented the mixed storage of waste by posting waste storage signs, displaying hazardous information materials, and conducting worker education. • Installed CCTV at waste storage areas, entry routes, and weighbridges to transmit data to the "Waste Treatment Site Information Management System."
Gunsan Fine Chemicals Plant	• Installed new waste separation storage areas and standardized signage education. • Waste management: Proper disposal of waste through on-site guidance. • Major disposal companies: On-site visits for waste inspection.
Pyeongtaek Bio Plants 1, 2	• Posted hazardous information materials and waste storage signs at waste storage locations. • Conducted training on handling precautions to ensure workers do not store waste mixed. • Installed CCTV at waste storage areas to prevent fires and mixed storage confusion. • Registered waste disposal in the "Allbaro System" within the legal processing deadlines when waste is moved out of the plant.

Waste Treatment Site Information Management System

In accordance with the notification on the method of transmitting on-site waste management information, DS DANSUK established a monitoring system to ensure proper waste disposal during the emission, transportation, and treatment processes within our facilities. This system helps prevent illegal activities related to waste management.

▼ Vehicle Inquiry Screen



Real-time location information collected via GPS on waste collection and transport vehicles.

Transmitting weight values measured at on-site weighing facilities.

Video information from CCTVs installed at entry routes, weighing facilities, and storage locations.

Green Bond

GREEN BOND

ESG Bonds/Green Guarantee Target Projects

DS DANSUK holds ESG bonds (50 billion KRW) raised through green bonds. The funds are used to purchase raw materials for producing sustainable fuels, such as bio diesel and bio heavy oil. The bioenergy business is included in the eligible project category according to Korean government guidelines. Additionally, a review of the business's relevance to the UN SDGs and the International Capital Market Association's SDGs confirmed that this business aligns with 'Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all' in the UN SDGs.

ESG Bonds/Green Guarantee Overview

DS DANSUK has initiated its bioenergy raw material purchase project to expand the use of eco-friendly fuels in the aviation and maritime sectors and contribute to the global movement to reduce GHG emissions through the commercialization of green energy. It has issued ESG bonds to enhance stakeholder satisfaction and ensure stable corporate funding for smooth raw material procurement. These funds are used to purchase raw materials for bio diesel and bio heavy oil, with the expectation of a clear impact on substituting fossil fuels and reducing GHG emissions through the bioenergy business.

ESG Bonds/Green Guarantee Outcomes

According to the research and standards set by the United Nations Framework Convention on Climate Change (UNFCCC), replacing fossil fuel-based diesel with bio diesel can reduce GHG emissions. DS DANSUK's bio diesel and bio heavy oil sales have been recognized to reduce GHG and air pollutant emissions, affirming that bioenergy projects funded by green bond issuances contribute to climate change mitigation and air quality improvement. DS DANSUK is committed to leading environmental improvements and will continue to issue ESG bonds and secure green guarantees to fulfill its corporate social responsibility and promote environmentally friendly management.

Process for Selecting Individual Target Projects

Practical departments and the planning team conceptualize and discuss potential ESG investment projects

Conduct environmental impact assessments and analyze the financial feasibility of the ESG projects.

Determine investment decisions through management meetings and proceed with investments upon final approval.

Comprehensively oversee and manage the project, with the finance department reporting progress/improvements to the management.

Social

DS DANSUK is committed to pursuing socially responsible management and creating sustainable value in collaboration with diverse stakeholders such as customers, employees, partners, and local communities. We aim to lay the foundation for human rights management and establish a system for nurturing talent while enhancing employee satisfaction and fostering a healthy organizational culture through fair performance evaluation and compensation. Additionally, DS DANSUK strives to achieve customer satisfaction through top-quality products and continues its efforts toward mutual growth with its partners and the local community.

Background

With rapid changes in the business environment, the importance of corporate social responsibility and ESG management is increasing. Sustainable development requires a strategy that fosters the growth of all stakeholders throughout the management process. This can be achieved by establishing policies at the governance level, securing excellent human resources, strengthening employee capabilities, fostering mutually beneficial relationships with partners and local communities, enhancing customer satisfaction by understanding the needs of different stakeholders, and implementing management improvement activities.

Our Strategy

- Establishing a Foundation for Human Rights Management
- Diversifying Employee Education and Enhancing Welfare
- Formulating and Managing Global Supply Chain Policies
- Enhancing Quality and Customer Satisfaction Management
- Promoting Coexistence with Local Communities and Partners

Social Issues

- Human Rights Management
- Talent Management
- Sustainable Supply Chain
- Quality Management and Customer Satisfaction
- Social Contribution

UN SDGs

Human Rights Management

Human Rights Management Projects

With the growing global demand for corporations to protect and respect human rights, the importance of human rights management is increasing. DS DANSUK plans to strengthen its human rights management at the corporate level to protect its employees' rights. By establishing a human rights management roadmap, we have laid the foundation for the implementing a human rights management system, including the creation of a human rights charter. Moving beyond mere declarations, DS DANSUK aims to enhance practical human rights by conducting human rights impact assessments and risk analyses in stages, thereby solidifying its commitment to human rights management and evolving into a socially responsible company.

Current Status of Human Rights Management

DS DANSUK is committed to reflecting the fundamental values of respect for human rights throughout its management activities based on its dedication to human rights management.

Basic Principles of Human Rights Management

In line with our commitment to human rights management, DS DANSUK continuously conducts legally mandated training such as sexual harassment prevention and disability awareness education. We ensure that all employees can participate in these training sessions both in person and online, aiming for 100% participation. This initiative fosters a culture of mutual respect and understanding among employees, while reinforcing DS DANSUK's commitment to human rights management.

DS DANSUK conducted a human rights management survey to identify human rights-related risks and assess employee awareness and experience. The survey targeted 196 office employees and received 79 valid responses. The survey identified three instances of human rights violations and highlighted the need to strengthen the mechanisms to address such violations. The most common response was that they would use the internal reporting or grievance handling systems if they had experienced or witnessed human rights violations. This underscores the necessity for a robust human rights management system that includes dedicated departments and key decision-makers. The survey also revealed DS DANSUK's efforts in human rights education, systematic personal data management, and the protection of high marks for their appropriateness and effectiveness in enhancing human rights awareness.

Respect for Diversity

DS DANSUK is committed to promoting respect for diversity and fostering an inclusive corporate culture. We emphasize creating an environment in which all employees can fully realize their potential. To this end, DS DANSUK hires a diverse workforce, including foreign and disabled employees. We ensure prayer times for Muslim employees and have consistently increased the employment for people with significant disabilities since 2019, striving to create a work environment in which they can fully utilize their abilities. Beyond fulfilling legal obligations, DS DANSUK conducts awareness training for foreign and disabled employees to instill a culture of mutual respect and understanding among all employees. This has led to a workplace in which recognizing and respecting each other's differences is a daily practice. DS DANSUK's workforce understands that respecting diversity enhances employee satisfaction and corporate social responsibility, both crucial to performance. Through these efforts, DS DANSUK pursues sustainable development, demonstrating that diversity and inclusion are integral to our success.

Establishment of a Human Rights Management Implementation System

Human Rights Management Roadmap

2024~2025 → 2026~2027 → 2027~

Phase 1: Establishment of Human Rights Management System	Phase 2: Internalization of Human Rights Management	Phase 3: Advancement of Human Rights Management
• Enact and declare the Human Rights Charter • Review and establish Human Rights Management Guidelines • Develop a systematic approach through the establishment of Human Rights Management implementation plans (e.g., establishing procedures for handling and remedying human rights violations, planning for human rights impact assessments)	• Conduct human rights impact assessments and identify areas for improvement • Develop and implement step-by-step improvement plans for identified issues and short-term tasks • Expand human rights education to promote a culture of respect for human rights	• Strengthen the collection and management of human rights-related data and establish a human rights management system (pursue certifications such as HRMS) • Publicize improvements in human rights management to expand social responsibility • Extend the human rights management system to affiliates and partners

DS DANSUK has established a mid- to long-term roadmap as a first step toward the systematic implementation of human rights management. As a top priority, we plan to enact a Human Rights Charter that clearly outlines our corporate commitment and direction regarding human rights and provides a basic framework for concrete action. The Human Rights Charter adheres to international standards such as the UN Guiding Principles on Business and Human Rights, the Universal Declaration of Human Rights, the International Labour Organization's core conventions, and the OECD Guidelines. This charter will be supported by a public declaration from management emphasizing its responsibility and importance, with all DS DANSUK employees participating in its implementation. To ensure the practical execution of human rights management, we will conduct human rights impact assessments in stages to address and improve the identified issues. Additionally, we will systematically promote the public disclosure of human rights management efforts, thereby advancing the level of human rights management practices.

Talent Management

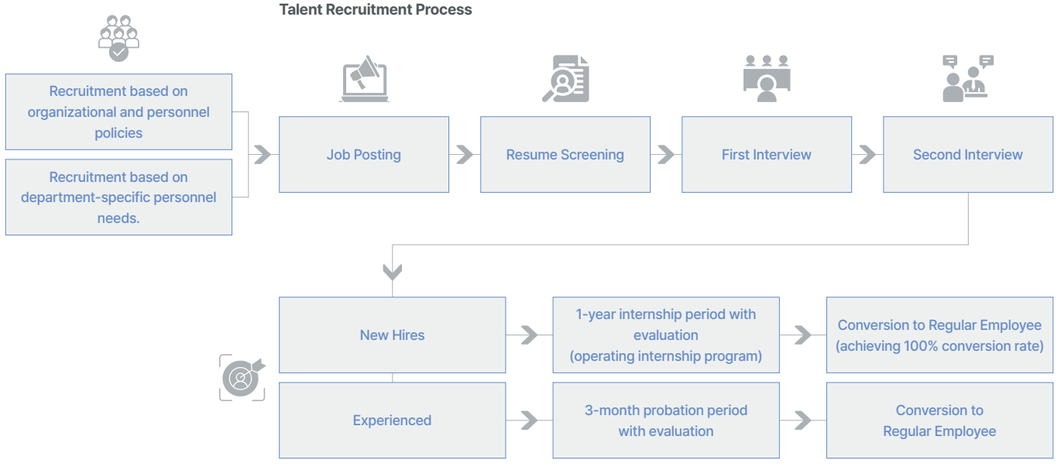
Talent Recruitment

DS DANSUK is committed to strengthening organizational competitiveness and ensuring sustainability in line with our growth, including the expansion of green businesses and IPO implementation. We strive to secure talent that aligns with the core values of innovation, challenge, passion, and empathy.

We have enhanced the flexibility of our recruitment process through open recruitment, allowing us to hire suitable candidates in a timely manner based on our organizational and personnel policies or the labor needs of each department. This approach not only enhances the efficiency of personnel management but also ensures that the right talent is placed in the right roles, improving job efficiency and satisfaction. Open recruitment also serves as an opportunity to actively attract outstanding talent from the external labor market. We plan to conduct skills enhancement training for interviewers in the second half of the year to ensure a more transparent and fair interview process and thoroughly verify the job competencies of the candidates.

From the second half of 2022, DS DANSUK has implemented a recruitment-type internship system that achieves a 100% conversion rate from interns to full-time employees. Additionally, we have transitioned key personnel in production/manufacturing roles near retirement age to contract positions, allowing us to continue leveraging their skills and experiences while supporting senior employment.

Talent Recruitment Process



Talent Development

DS DANSUK emphasizes nurturing professional talent, which will serve as a future growth engine. Starting in the second half of 2023, we introduced new educational programs, including orientation workshops for new hires. These programs are designed to familiarize new employees with DS DANSUK's values and organizational culture while emphasizing the importance of ethical business conduct and social responsibility. Additionally, department introductions and general business training provides the understanding of DS DANSUK's operations, helping new employees quickly adapt to their roles and organizational lives. For 2024, we planned competency enhancement training sessions for each job rank and department to be held once in the first and second halves of the year. We also aim to offer personalized content to each employee to focus on improving their professional and leadership skills, thereby maximizing organizational performance.

New Employee Workshop (Schedule)

Apr/24 (Wed)
- Opening Ceremony and Orientation
- [Training] Communication Strategies through Personality Assessment
- [Training] Business Etiquette
- [Training] Business Speech
- [Training] Business Writing
- Executive meetings and breaks.

Apr/25 (Thu)
- [Company Introduction] Introduction to DS DANSUK and Various Departments
- Sihwa Plant Tour
- Pyeongtaek Bio Plant Tours and Meeting Plant Managers
- Dinner and Break

Apr/26 (Fri)
- Gunsan Fine Chemical Plant and Gunsan Recycling Plant Tours and Meeting Plant Managers
- Return to Each Workplace

Employee Engagement

DS DANSUK has conducted an employee engagement survey to understand and manage engagement levels more effectively. Of the 196 office employees surveyed, 79 provided valid responses. Of these, 75% rated their engagement positively (4 or higher out of 5), with the highest scoring factor being job understanding. The overall engagement rate was 78.4%, which is approximately 4% lower than the 2024 average engagement level of major corporate employees (82.7%) as reported by the Korea Enterprises Federation. This indicates a need for improvement in engagement strategies. To address this, DS DANSUK supports new hires through workshops and onboarding programs to enhance their understanding of their roles and the company, thus facilitating quicker adaptation and higher engagement. In the future, we will continue to conduct regular engagement surveys and explore various measures to enhance policies, systems, and work environments, thereby improving employee engagement and performance.

Performance Evaluation and Rewards

In 2023, DS DANSUK introduced a new HR evaluation solution to enhance sustainable growth and HR competitiveness. This system records employees' performance and achievements, establishing an objective performance-based evaluation framework. Fully implemented in 2024, the system sets both organizational and individual goals and regularly track performance, focusing on personal growth and organizational goal attainment. During the annual performance evaluation period, the accumulated data is used to comprehensively assess each employee's performance. These assessments inform promotions, bonuses, and other reward systems as well as developmental feedback. By continually refining the evaluation and reward system, DS DANSUK aims to motivate employees, improve work efficiency, and ensure a rational organizational culture.

Labor–Management Communication

DS DANSUK conducts quarterly labor–management councils to discuss key issues, explore various response strategies, and enhance mutual understanding. These meetings aim to improve employee welfare and promote healthy corporate development. The council consists of an equal number of representatives from both managers and employees, each elected to best represent the workforce. Employees first select candidates, and then all employees vote directly to elect their representatives. During each quarterly meeting, decisions are made transparently in accordance with Article 15 of the Act Concerning the Promotion of Worker Participation and Cooperation to ensure no bias. Decisions are valid with the attendance of a majority of council members and the approval of at least two-thirds of attendees. All employees can present their opinions through their representatives, fostering a collaborative labor–management relationship by sharing and collecting opinions. In 2023, DS DANSUK revised its employment rules and various company regulations through agreements reached by the labor–management council, ensuring that revisions and improvements to working and welfare conditions are made collaboratively.

2023 Labor–Management

1st Quarter (23.03.30)
- Appointment of new employee representative committee members
- Appointment of grievance resolution committee members
- Announcement regarding employee incentives
- Guidelines for internal construction machinery management

2nd Quarter (23.06.28)
- Notification of changes to internal employment rules and regulations
- Summer vacation policy for 2023
- Details of the 58th-anniversary celebration

3rd Quarter (23.09.25)
- Changes to the company name and corporate identity
- Revisions to employment rules and management regulations
- Announcements on improvements to welfare systems and amendments to labor–management council regulations

4th Quarter (23.12.26)
- Regular personnel appointments for 2024
- Notification on the restructuring of the HR system
- Information on salary and rank increases for 2024
- Distribution of performance incentives for 2023
- Winter safety precautions

Corporate Communication Culture

DS DANSUK strives to foster a culture of trust and cooperation through active communication. At the beginning of the year and in every quarter, we share the overall management environment, industry trends, and key initiatives for each business with all employees, ensuring alignment in business direction. Additionally, after each quarterly labor–management council meeting, we hold separate sessions to facilitate dialogue between office staff and field workers. These sessions allow office staff to hear the concerns of field workers directly, enabling actionable improvements and fostering mutual understanding in working environments, thus ensuring the cohesive operation of the entire organization. Since October 2022, we have published a regular company newsletter to expand communication between field and office staff, headquarters, regional offices, and even among our subsidiaries. Moving forward, DS DANSUK will continue to enhance communication to promote mutual understanding and empathy, striving to build a cooperative and harmonious organizational culture.

Communication Between Interns and Management

DS DANSUK recognizes the importance of human capital and strives to lay the foundation for sustainable growth. To this end, we have introduced a recruitment-based internship program, actively hiring new employees and contributing to job creation. We have established various communication channels to facilitate smooth interactions among employees. Notably, the "Dialogue Between the Chairman and Interns" program provides new employees with the opportunity to engage directly with senior management, thereby enhancing mutual understanding and significantly expanding communication within the organization. This initiative exemplifies our core value of "sympathy" and offers interns a valuable platform to voice their opinions, contributing to a more dynamic and healthier corporate culture. DS DANSUK will continue to develop and strengthen such communication activities, fostering a work environment where all employees can collaborate based on mutual respect and trust.

Digital Work Innovation

Robotic Process Automation (RPA) Advancement

DS DANSUK has implemented an RPA system to enhance work efficiency and strengthen digital expertise by replacing repetitive tasks with digital labor. Since May 2021, 6 RPA bots have been used in 12 office tasks, including sales/purchasing processing, goods receipts, and expense reports. The RPA system saves 4,400 hours annually, which is equivalent to a workload of approximately 2.3 full-time employees based on the average annual working hours of 1,920 per employee. Through the RPA advancement project, DS DANSUK aims to develop and implement additional programs company-wide to reduce human error and minimize the time and labor costs associated with repetitive administrative tasks. This enables employees to focus on high-value tasks, improving their overall work efficiency.

STEP 1

(Current) Basic Process Automation

- Automation of simple data entry
- Applied to a few departments with recognized performance

STEP 2

Advanced Process Automation

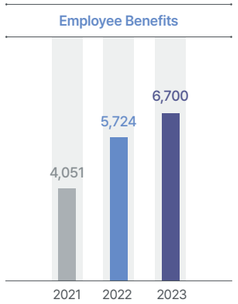
- Automation of complex data entry
- Successful application across various departments
- Formation and operation of dedicated teams

STEP 3

Implementation of RPAI

- Combination of RPA and AI
- Conducting data analysis and decision-making

Unit: 1 Million KRW



Employee Welfare Programs

DS DANSUK operates a variety of welfare programs to improve employees' quality of life and job satisfaction. Recognizing that the workplace is both a place of work and a living environment for employees, we established various programs such as health checkups, support for hobbies, and assistance for family events to boost employee morale and enhance work focus.

Welfare Programs

Gifts for Employees on Special Occasions	Support for Family Events	Operation of an In-house Café
• A program where employees can apply to send flowers and cakes on special days. • In 2023, 425 employees received gifts for their special days.	• Support for employees' celebrations and condolences through financial assistance. • Provision of congratulatory gifts and leave for employees' weddings. • Supply of funeral supplies and extended condolence leave for bereavements.	• Provision of a pleasant space for employees and visitors through an in-house café. • Issuance of monthly coupons for free beverages.
Support for Employee Vacation Facilities and Resorts	**Celebratory Gifts for Childbirth and School Enrollment**	**Scholarships for Employees' College-Age Children**
• Provision of exclusive vacation facilities for employees. • Access to nationwide vacation facilities through condominium memberships.	• Congratulatory money for children enrolled in elementary, middle, and high school. • Congratulatory money and gifts for employees upon the birth of a child.	• Scholarships through the operation of a scholarship association for college-aged children of employees and affiliated institutions.
Health Management Support for Employees	**Operation of an In-house Gym**	**Improvement of Commuter Bus Routes**
• Regular health consultations and management by in-house nurses. • Free flu vaccinations for employees during the winter season.	• Enhancement of employee fitness through the operation of an in-house gym. • Partial remodeling of the gym and purchase of new equipment.	• Enhancements to commuter bus routes to increase utilization and convenience for employees.

Various Welfare Improvements

With its listing in the securities market and a company name change in 2023, DS DANSUK introduced many changes and improvements to its welfare system to enhance its employees' quality of life. We improved the commuter bus routes to better match the needs and actual usage patterns of employees. Work and operation attires were redesigned for convenience and comfort, reflecting employee feedback. In addition, comprehensive health checkups have been introduced for executives and their spouses, with plans to extend them to all employees in the future. To support employee skill enhancement and personal development, DS DANSUK provides financial support for the certification exams required for company activities. Moving forward, DS DANSUK will continue to listen to employee feedback and incorporate their needs to develop and improve various welfare programs aimed at promoting health, work-life balance, and overall well-being.

Parental Leave System

DS DANSUK recognizes the importance of corporate responsibility in addressing the national issue of low birth rates. We support employees in balancing work and family life through maternity and parental leave systems. We strive to become family-friendly by ensuring that parental leave does not lead to career interruption. DS DANSUK plans to implement welfare systems for both male and female employees that are legally compliant and practically beneficial.

Sustainable Supply Chain

Supply Chain Risk Management

DS DANSUK has strengthened its supply chain risk management by establishing a Supply Chain ESG Management Policy to identify, assess, prioritize, and implement strategies to mitigate supply chain risks. Using market research to identify risks, DS DANSUK evaluates them based on the likelihood and impact of setting priorities. High-priority risks are addressed through tailored mitigation strategies developed and executed in close cooperation with supply chain partners, enhancing transparency, and integrating risk management protocols throughout the supply chain. Real-time data analysis and monitoring systems continuously track changes in the supply chain, enabling the ongoing review and adjustment of risk management strategies as necessary. Through this strategic approach, DS DANSUK aims to strengthen its supply chain stability and resilience and secure its long-term competitiveness.

Supply Chain ESG – Management Policy

Environmental	Social Contribution	Support for Partner ESG
Minimize environmental impact	**Shared Growth**	**Manage and support ESG risk improvements**
Practice joint environmental management with partners and prioritize the purchase of eco-friendly products/services	Strengthen collaboration systems with partners to create social value	Create shared value through transparent, ethical purchasing, and environmental and social impact management

Unified ESG-Based Rational Decision-Making

Ensure Alignment with Company-Wide ESG Operating Principle

Respond Effectively and Swiftly to ESG Risks

DS DANSUK has established a Supply Chain ESG Management Policy that incorporates ESG elements along with delivery, quality, and price. This policy, based on global standards such as the UN Guiding Principles on Business and Human Rights, outlines the requirements with which suppliers providing products and services to DS DANSUK must comply (environmental, safety and health, labor and human rights, and social and ethical). Additionally, to strengthen supply chain ESG management, DS DANSUK has developed a mid- to long-term implementation roadmap. As part of this plan, we request major suppliers to sign a code of conduct compliance agreement, include ESG management compliance clauses in transaction contracts, and complete a self-assessment checklist. These measures aim to enhance overall supply chain management.

Supply Chain ESG Management Roadmap

~2025	~2030	~2050
Implementation of Supply Chain ESG Policy	Expansion of Supply Chain ESG Policy Implementation	Supply Chain ESG 100
Apply to the top 10 product and service suppliers	Extend to the top 20% of product and service suppliers	Gradual implementation across the entire supply chain, considering the size and level of each supplier

Supply Chain ESG - Code of Conduct for Partners

The Code of Conduct for Partners represents a commitment between DS DANSUK and its partners to practice sustainable business and fulfill social responsibilities. This code specifies the standards and principles in the three key areas of environmental, social, and governance (ESG). In the long term, the goal is for all partners to comply with this code, thereby participating in collective efforts toward a sustainable future.

Promoting Win-Win Cooperation

DS DANSUK is continuously striving for mutual growth with its partners and integrating this into its core business to create shared value through win-win cooperation. Especially in the bioenergy business, we are strengthening our collaboration with external tank terminals that store raw materials and products. In March 2023, we completed a pipeline connection project with these external tank terminals, transitioning from the transport of raw materials and products via tank lorries to pipeline transfers. This transition will result in the transfer of over 50,000 tons by 2023, reducing carbon emissions from transportation and simplifying transfer management. For our partner tank terminals, this collaboration eliminated logistic risks and established a long-term cooperative framework with DS DANSUK. With the commencement of HVO-PTU operations at Pyeongtaek Bio Plant 1 in the second half of 2024, we plan to expand the pipeline connection project to ensure smooth raw material and product management. Additionally, since 2023, we have been constructing new tanks (Total 17,204 KL, four units) on available land adjacent to our bio diesel production plant in partnership with nearby collaborators. This project aims to secure the long-term storage and operation of biofuel products and their raw materials, thereby enhancing their operational capabilities. For our partners, new tanks represent an asset that bolsters business capabilities.

Supporting Suppliers for Certification

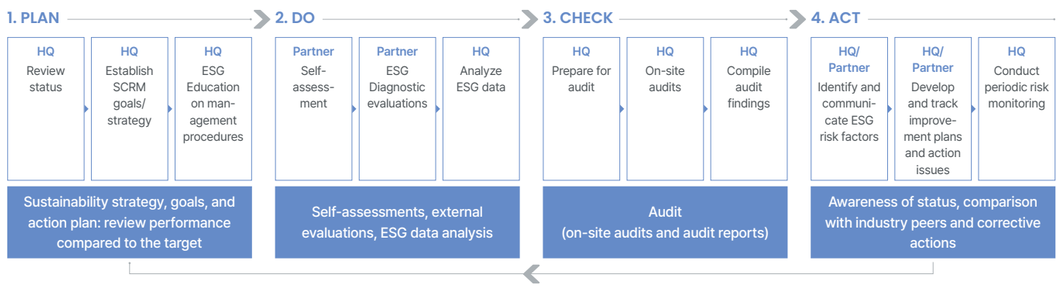
DS DANSUK assists its suppliers in obtaining ISCC-EU certification for the European export of biofuels by sourcing ISCC-EU-certified raw materials. For domestic suppliers of raw materials (used cooking oil and food waste oil) who lack knowledge or find it difficult to manage certification requirements, DS DANSUK provides support in obtaining and managing ISCC-EU certification. By achieving ISCC-EU certification, suppliers can continue certified raw material transactions with DS DANSUK and potentially enter the raw material export market directly, thereby enhancing their competitiveness.

- Support for ISCC-EU Certification
- Training on how to prepare certification documents such as Mass Balance
- Guidance on management points by category through internal audits
- Support for documentation including annual GHG calculations based on process data performance

Partner Selection and Evaluation

DS DANSUK has traditionally evaluated its company status and core financial information by reviewing credit reports, conducting regular assessments based on ISO certification standards, and examining overall business conditions, delivery performance, and reputation. DS DANSUK plans to incorporate adherence to the Supply Chain ESG Management Policy and Partner Code of Conduct into its partner selection and evaluation process to ensure systematic supply chain management and the inclusion of ESG factors. We will clearly communicate DS DANSUK's Partner Code of Conduct, request compliance agreements from major partners, and use partner self-assessment checklists to enhance supply chain ESG management. Furthermore, by expanding communication through regular meetings and listening to concerns, we aim to strengthen partnerships in order to achieve common ESG goals. In the long term, we will conduct evaluations to verify partners' ESG management capabilities and assess sustainable trade levels to establish a supply chain that prioritizes social and environmental responsibilities.

Supply Chain ESG Risk Management Process



Customer Satisfaction and Quality Management

▼ Quality Management System Certificate

Vision

Management Goals and Directions

Quality Management Policy

DS DANSUK strives for the highest quality based on the vision "DS Quality Only One!" We aim to achieve brand value of the best quality. Our growth momentum is rooted in quality, which prioritizes customer satisfaction by providing high-quality products and services. DS DANSUK has continuously improved its quality management system to enhance its competitiveness and achieve flawless products, thereby contributing to the sustainable development of both DS DANSUK and its customers.

Quality Management Principles

Realizing customer satisfaction through customer-first operations	Supplying products and services of superior quality	Complying with and continuously improving the quality management system

Quality Management System

DS DANSUK has obtained and maintains ISO 9001 certification for its quality management system at 6 domestic and 1 international facilities to provide superior quality products that meet customer needs. We systematically establish, implement, maintain, and continuously improve the quality management system through efficient management practices, ensuring company-wide adherence to quality standards. By setting detailed directions for achieving quality management goals, DS DANSUK conducts ongoing management and improvement activities to achieve customer satisfaction with the highest quality. As the largest bio diesel exporter in Korea, DS DANSUK has established a quality management system that meets the latest EN 14214 (European bio diesel quality standards) and ASTM D6751 (US bio diesel quality standards) standards. Furthermore, by being the first in Korea to export and sell bio marine fuel to Europe, we comply with ISO 8217 international standards and present our unique quality levels that leverage the advantages of biofuels.

DS Quality Only One!
DS DANSUK aims for the brand value of the best quality.

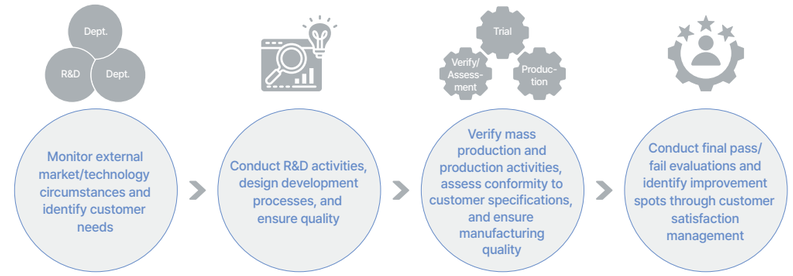
Prevention of Quality Defects	Advancement of Quality Management System	Enhancement of Customer Satisfaction
• Evaluate and manage the quality of raw materials and suppliers. • Strengthen 5S management to prevent foreign material defects. • Conduct preventive inspections of manufacturing equipment. • Strengthen checklists.	• Operate a rapid sharing system for process inspection data. • Improve control charts using databases. • Replace outdated analysis equipment to enhance efficiency and reliability.	• Internalize customer requirements within the system. • Prepare in advance to meet delivery deadlines. • Respond promptly to customer issues.

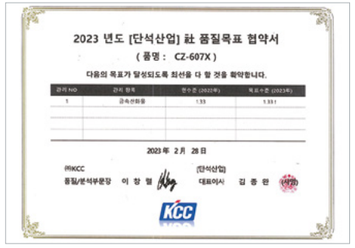
Supplier Quality Management

DS DANSUK dedicates to enhance the quality mindset of suppliers and strengthens the internal quality systems. Through collaboration between departments, from the Quality Assurance team at the point of raw material procurement to the Procurement and Logistics team for delivery management and contract extension, we can support the inspection and improvement of supplier quality. We analyze the vulnerable areas identified during inspections to prevent similar quality issues and share best practices to enhance suppliers' quality competitiveness.

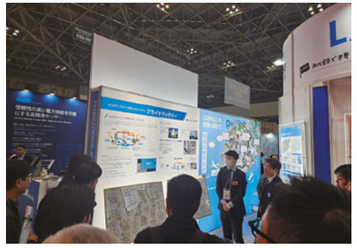
Customer Interaction Activities

DS DANSUK pursues a work approach that enhances efficiency through immediate communication with operational departments and promptly addresses customer requirements. Utilizing various communication channels, we actively gather customer feedback and deliver new value aligned with industry trends, striving for mutual growth among client companies. DS DANSUK showcases its product competitiveness and technological prowess by participating in domestic and international exhibitions and business-related tradeshows. It accommodates customer feedback and requirements from multiple perspectives considering the market trends and technological advancements. We continue various customer interaction activities such as participating in the Asia Biofuels & Feedstock Conference (April 2023) and the annual Environment & Energy Tech Exhibition. By actively engaging in online and offline business and quality enhancement activities, DS DANSUK strengthens communication with customers and expands the market by realizing quality satisfaction that meets market needs.





▲ KCC Quality Agreement



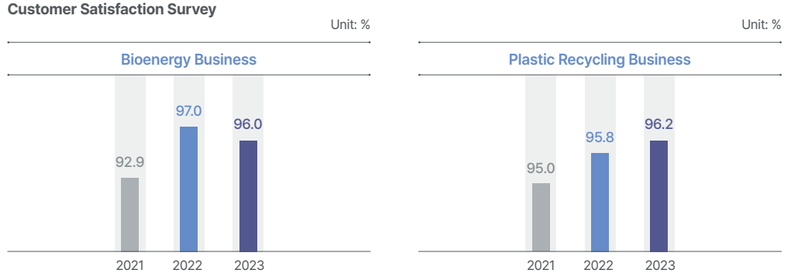
▲ Participation in Japan World Smart Energy Week 2024

▲ Participation in INTERBATTERY 2023

Customer Satisfaction Survey

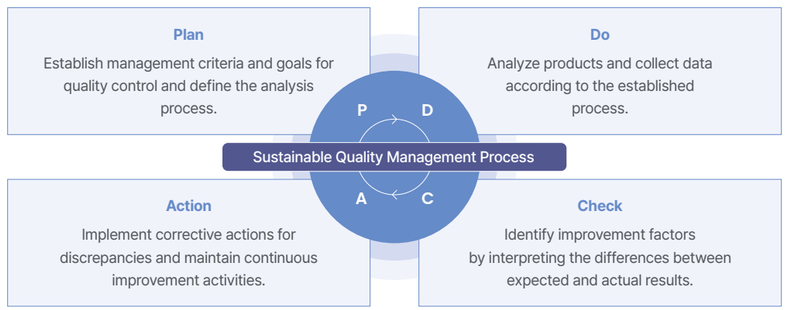
DS DANSUK maximizes customer satisfaction by collecting customer feedback through satisfaction surveys and incorporating it into quality improvement plans. These surveys are conducted annually with our largest customers (based on revenue) in each business segment to evaluate satisfaction across four areas: delivery, quality, emergency response, and handling customer complaints. Feedback is analyzed to identify areas for improvement and meet customers' demands. We strive to build trust by delivering high-quality products on schedule and enhancing customer satisfaction through proactive service activities. In 2025, in addition to 1:1 interviews, DS DANSUK plans to introduce an online community system for surveys to gather a broader and more diverse range of customer feedback.

Customer Satisfaction Survey



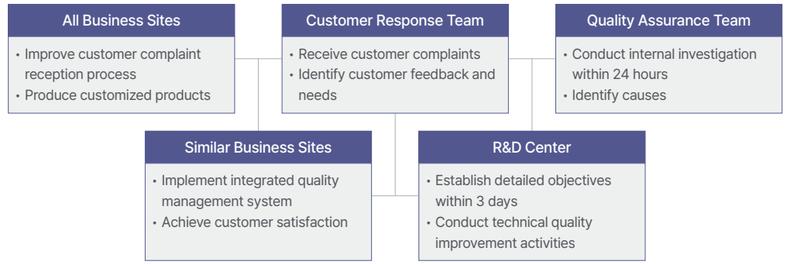
* Out of 100%

Customer Satisfaction Evaluation Process



Customer and Quality Response System

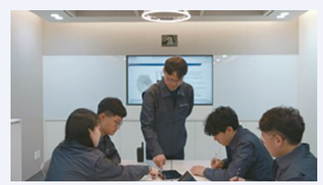
DS DANSUK is committed to providing the highest quality products to achieve customer satisfaction. By accurately identifying and analyzing customer needs, we operate a coordinated quality response system that uses real-time monitoring throughout the process, from R&D to the production of customized products and post-sales feedback. When the sales department receives customer feedback, which directly handles customer complaints, an internal investigation is conducted within 24 hours to quickly identify the cause. Detailed objectives for technical quality improvement activities are then established within three days. In addition to the quality response process, we prioritize the early replacement of substitute products to ensure that customers do not experience inconvenience and implement integrated quality management systems linked with similar business sites to achieve customer satisfaction. DS DANSUK will continue to foster regular communication among operational departments to continuously review and improve processes to reduce customer complaints. Furthermore, product improvement and development will persist through technological innovation to enhance customer satisfaction with the highest quality products.



Customer Complaint Reception Process

2023 Main Customer Complaints Handling Status

In 2023, there were a total of 6 customer complaints, an increase from 4 complaints in 2022. However, all issues were addressed through equipment and system enhancements to prevent recurrence. For difficulties customers experienced with supplied products, we ensured the immediate re-supply of normal inventory to facilitate smooth products usage. Additionally, internal systems were reinforced to prevent the same issues from recurring. Notably, the system enhancements were also applied and improved in other similar processes, linking them to preventive activities.



Team meetings to investigate and resolve quality issues ▶

Social Contributions

Social Contribution Vision and Strategy

Under the founding philosophy that “a company must continuously develop and contribute to human society,” DS DANSUK is committed to creating a sustainable society. Based on our vision, we actively participate in social contribution activities, addressing various issues in local communities and contributing to their development as a member of the social community.

DS DANSUK Social Contribution Strategy Framework

Vision

A sustainable future, an accompanying journey full of hope

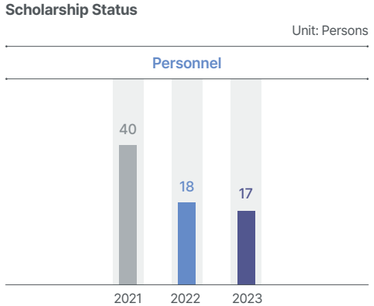
Hope in Action and Key Activities

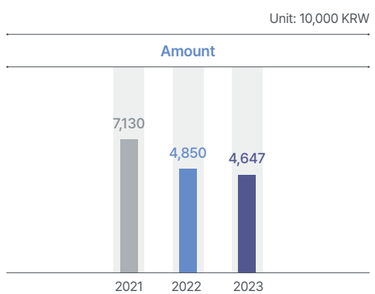
Hopeful Sympathy	Hopeful Sharing	Hopeful Tomorrow
Environmental conservation activities around business sites	Community donation activities	Operation of the Dansuk Scholarship Foundation

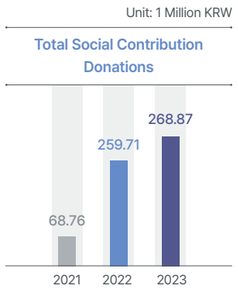
Dansuk Scholarship Foundation

In 2000, DS DANSUK established the Dansuk Scholarship Foundation to fulfill its corporate social responsibility. The foundation aims to contribute to human resources, social welfare, and national development by providing scholarships and academic research funding through the Act on the Establishment and Operation of Public Interest Corporations. The foundation selects students with excellent academic performance from economically disadvantaged backgrounds and provides them with scholarships to support their growth as members of society. By 2023, 820 students had been awarded scholarships, amounting to approximately 1.47 billion KRW, contributing to the cultivation of future talent. Additionally, the foundation participates as a special sponsor of events such as the 2023 Korea Environment & Energy Awards to promote academic research.

Scholarship Status







Donation Activities

DS DANSUK not only contributes to society through its eco-friendly business initiatives but also donates to support the underprivileged in local communities and promote academic research for societal development. We consistently strive to practice social responsibility through donations to local welfare foundations, organizations, and academic societies. In 2023, DS DANSUK undertook social contribution activities to support the operation of the Jeonbuk Glocal Center and international exchange programs for the successful hosting of the 2023 World Scout Jamboree in Saemangeum. Through these efforts, DS DANSUK aims to foster mutual growth and support for those in need.

▲ Global Standard Management Awards: Green Management Awards.

▲ Korea Social Contribution Corporate Awards: Eco-friendly Category

Expansion of Social Contribution Activities

DS DANSUK recognizes the significant responsibility as a corporate citizen and plans to expand its social contribution activities to foster the development of future generations and the community where we live. We will continue to support talent development and academic research through the Dansuk Scholarship Foundation, engage in support activities for local communities and marginalized groups, and run volunteer programs involving employees.

Progress Plan for Social Contribution

Coexistence with Local Communities + Care for Marginalized Groups + Raising Future Talents + Sustainable Social Contributions

Hopeful Sympathy	Hopeful Sharing	Hopeful Tomorrow
Annual volunteer activities involving domestic and international employees	**Community-linked social contribution activities**	**Introduction of tailored scholarship support systems linked to talent recruitment**
• Technical volunteer work tailored to department characteristics • Operation of Volunteer Day • Planning of volunteer programs at overseas bases	• Establishment and support of regional partner communities • Partnerships with local governments	• Support for living expenses scholarships • Development of support systems linked to regional talent recruitment

Governance

DS DANSUK commits to advance its management activities based on transparent governance and internalize ethical and compliance management to become a trustworthy company for all stakeholders.

Background

As companies grow, they face increasing legal regulations and associated risks increase, along with expectations for corporate social responsibility. Consequently, the importance of transparent and rational governance, as well as ethical and compliance management is becoming more pronounced. Companies must manage not only legal compliance but also the broader risks that arise in management and business activities. The highest-level decision-making bodies must establish a system capable of integrating macro-level risk management.

Our Strategy

- Ensuring the independence and diversity of governance
- Establishing a committee system on the Board of Directors
- Strengthening the decision-making system for both financial and non-financial factors
- Internalizing the framework for ethical and compliance management

Governance Issues

- Transparent operations and rational decision making on the Board of Directors
- Information security risk management
- Internalization of ethical and compliance management

UN SDGs

Board of Directors

Board Composition and Operation

The Board of Directors at DS DANSUK is the highest decision-making body with its independence and expertise. It consists of eight directors, including outside directors, who account for more than one-quarter of the total number of directors in compliance with Article 542-8 of the Commercial Act for listed companies. The CEO also serves as the chair of the board to facilitate efficient decision-making and communication. The board ensures the independence of decision-making in internal control areas by operating committees primarily composed of outside directors. Each director's term is three years, as stipulated in the Articles of Incorporation, with reappointment decisions based on the director's activities and performance. Each outside director brings specialized knowledge to the management, legal, and financial fields, contributing on our development. Notably, the 2023 board focused on compliance-related expertise to enhance internal controls. In 2024, following the voluntary resignation of a legal expert outside director for personal reasons, a new outside director with expertise in DS DANSUK's relevant industry was appointed through a verification process by the Outside Director Candidate Recommendation (ODCR) Committee.

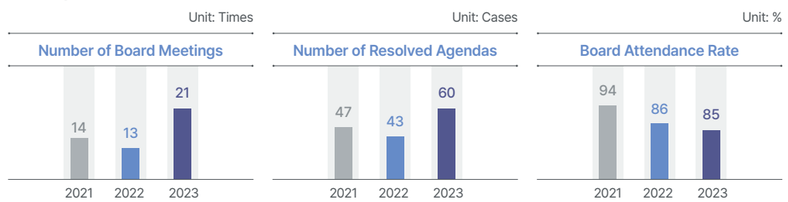
Director Appointment for Board Independence

When appointing directors, DS DANSUK ensures that the qualifications required by the relevant laws are met and adheres to the selection procedures leading up to the resolution of the general shareholders' meeting. For inside directors, the board evaluates such as candidates' expertise, diversity in the context of the board's composition. The board nominates the candidate to the shareholders' meeting for approval. The ODCR Committee, composed of more than two-thirds of outside directors, verifies the candidate's qualifications, expertise, and independence. The committee then nominates the candidate to the board and shareholders' meeting for final approval.

Board Operations

DS DANSUK holds quarterly board meetings and, when necessary, convenes additional board meetings under the articles on incorporation and board regulations. Notices of meetings and relevant materials are provided to directors at least three days before the meeting. Additionally, detailed explanations and supporting documents are provided for key issues, allowing the board to fulfill its roles and responsibilities as required by law and internal regulations. In 2023, as we prepared to go public, we held more board meetings, which decreased the attendance rates slightly due to scheduling difficulties. However, DS DANSUK utilizes video conferencing in compliance with the Commercial Act to ensure that directors can perform their duties effectively.

Board Operations Overview



Board Composition

At the 40th General Meeting of Shareholders held on March 28, 2024, outside director Kim Hak-ja resigned and Choi Yeong-ho was appointed as an outside director and member of the Audit Committee. Choi Yeong-ho has experience and expertise in the global energy and petrochemical industries. He was recommended and appointed for his insights, which are expected to significantly contribute to the company's new business initiatives and investment strategies.

Board Composition Overview

(As of March 31, 2024)

Category		Inside Directors					Outside Directors			
		Han Seung-uk	Kim Jong-woan	Yoo Jae-dong	Koh Sang-hyuk	Jang Se-hoon	Shim Chung-jin	Yeo Hwan-seop	Kim Hak-ja*	Choi Yeong-ho
Specialized Role		Planning, Sales, Finance, etc. in general	Production Technology /R&D	Finance/ Funding	Legal/ESG	Strategy Planning/ Investment	Accounting/ Management (CPA)	Law (Attorney)	Law (Attorney)	Petrochemi-cal Industry
Experience	Leadership	CEO	CEO	Executive	Executive	Executive	Professor	Head of Institution	Group Leader	Executive
	Related Industry	O	O	O	O	O				O
	Global	O				O				O
Special-ized Area	Business Strategy	O				O				O
	Corporate Governance			O	O			O	O	
	Compliance Management		O		O		O	O	O	
	Financial Accounting			O			O			
	Environmen-tal Health and Safety		O							
General Informa-tion	Nationality	South Korea	South Korea	South Korea	South Korea	South Korea	South Korea	South Korea	South Korea	South Korea
	Age (Gender)	Born in 1958 (Male)	Born in 1972 (Male)	Born in 1971 (Male)	Born in 1972 (Male)	Born in 1975 (Male)	Born in 1964 (Male)	Born in 1968 (Male)	Born in 1967 (Female)	Born in 1966 (Male)
	Education	Master of Industrial Chemistry	Ph.D. in Policy Studies Master of Chemical Engineering	Master of Accounting	Bachelor of Law	Bachelor of Economics	Ph.D. in Business	Bachelor of Law	Master of Law	Master of Chemical Engineering
	Date of Appointment	2024-03-28	2024-03-28	2024-03-28	2023-03-31	2024-03-28	2023-03-31	2023-03-31	2023-03-31	2024-03-28
	Term of Office	41 years, 4 months	24 years, 4 months	5 years, 11 months	2 years, 6 months	9 years, 1 month	1 year, 2 months	1 year, 2 months	1 year	2 months

* Resigned for personal matters on March 28, 2024

Board Committees

Since 2023, DS DANSUK has operated five committees within the Board of Directors to enhance the professionalism and efficiency of decision-making and responsibilities. These committees include the Audit Committee, Management Committee, Internal Transactions Committee, Remuneration Committee, and the Outside Director Candidate Recommendation Committee. Notably, the Audit Committee (established under Article 542-11 of the Commercial Act), Internal Transactions Committee, the Remuneration Committee, and the Outside Director Candidate Recommendation Committee are mandatory or recommended for listed companies with assets of at least 2 trillion KRW. By proactively creating these committees, DS DANSUK aims to ensure a transparent and rational decision-making process. The composition and roles of each committee are as follows.

Status of Board Committees

(As of December 31, 2023)

Category	Composition	Members	Main Roles	Meetings Held	Agenda Items
Audit Committee	3 Outside Directors	Shim Chung-jin (Chair) Kim Hak-ja, Yeo Hwan-seop	• Supervision of the work and decisions of directors and management • Evaluation of internal control systems (including internal accounting management) • Selection, dismissal, and post-evaluation of external auditors	4	4 Report Items
Management Committee	3 Inside Directors	Han Seung-uk (Chair) Yoo Jae-dong, Jang Se-hoon	• Decision-making on routine manage-ment matters below the board's criteria • Resolution of major management issues delegated by the board	8	9 Resolved Items
Internal Transac-tions Committee	2 Outside Directors 1 Inside Director	Yeo Hwan-seop (Chair) Shim Chung-jin, Yoo Jae-dong	• Review and resolution of major internal transaction matters to ensure fair transactions with stakeholders (including subsidiaries)	5	11 Resolved Items
Remuneration Committee	2 Outside Directors 1 Inside Director	Kim Hak-ja (Chair) Shim Chung-jin, Yoo Jae-dong	• Ensuring of transparency in the executive remuneration system • Evaluation of the appropriateness of registered director remuneration limits and review of compensation systems	3	5 Resolved Items
Outside Director Candidate Recommendation Committee	2 Outside Directors 1 Inside Director	Kim Hak-ja (Chair) Yeo Hwan-seop, Koh Sang-hyuk	• Evaluation and recommendation of the suitability of candidates for new outside directors	1	1 Resolved Items

Operation of the Audit Committee

DS DANSUK has established a special Audit Committee in accordance with Article 542-11 of the Commercial Act for listed companies. During the general shareholders' meeting on March 31, 2023, three Audit Committee members (all outside directors) were appointed and separated from the other directors. On April 5, 2023, the board approved the establishment and regulation of the Audit Committee. Internal accounting control system training was conducted to enhance the expertise of Audit Committee members. The Audit Committee regularly communicates with external auditors to review major risks.

Meeting No.	Date	Agenda	Approval Status
1st	2023.04.05	Election of the Audit Committee chair	Approved
2nd	2023.07.05	Training on the Internal Accounting Control System for Audit Committee members (by Samil PwC)	
3rd	2023.11.15	Communication with external auditors	
4th	2023.12.27	Interim audit report on the internal accounting control system	

Operation of the Internal Transactions Committee

DS DANSUK has implemented regulations for transactions with stakeholders, including major shareholders and related parties, to strengthen its control over such transactions. We have also established the Internal Transactions Committee on the Board of Directors to independently review and approve matters related to transactions with stakeholders. Although the establishment and operation of the Internal Transactions Committee are not mandatory for our company, they adhere to the resolutions for internal transactions specified for business group subject to disclosure, as per Article 26 of the Fair Trade Act. Additionally, in compliance with Article 542-9 of the Commercial Act, it pre-reviews and approves transactions exceeding a certain scale with stakeholders for listed companies with total assets exceeding 2 trillion KRW.

Operation of the Remuneration Committee

The Remuneration Committee reviews and approves the individual remuneration of registered directors, including their salary limits and performance bonuses, which are then submitted to the general shareholders' meeting. It also deliberates on individual compensation to appoint major shareholders with special relationships as executives. In 2023, the committee resolved individual performance bonuses for registered directors, approved payments for new non-registered executives, and pre-reviewed the agenda for director salary limits to be presented at the 2024 shareholders' meeting.

Evaluation and Remuneration

DS DANSUK's Board of Directors comprehensively evaluates the expertise, understanding of management, and experience of the candidates in each division to identify the most suitable candidates for management. The board ensures that directors fulfill the roles and responsibilities required by laws and internal regulations, reflecting these evaluations when reappointing directors. Outside directors are recommended by the Outside Director Candidate Recommendation Committee, which considers their expertise and ability to perform fair duties. Their activities, contributions, diligence, and responsibilities on the board are thoroughly considered for reappointment. Director compensation is maintained within the limits approved by the shareholders' meeting, adhering to our policy and the 'Executive Remuneration and Severance Payment Regulations.' When proposing the compensation limits for directors at the shareholders' meeting, the Remuneration Committee, composed of at least two-thirds of outside directors, reviews the appropriateness of individual compensation structures and total compensation limits, considering industry standards and actual compensation. The agenda is then submitted to the board and shareholders' meeting for approval. The board implements approved compensation limits, and the results are reported back to the shareholders' meeting. Performance evaluations and bonuses for individual directors are also administered, following approval from the Remuneration Committee and board. Compensation for outside directors consists of a base salary and expenses incurred during company duties. Performance-linked compensation policies have not been implemented to ensure independent and unbiased opinions. Through these policies and procedures, DS DANSUK strives to maintain a transparent and fair compensation system.

Director Compensation Status

(As of December 31, 2023)

Category	No. of People	Unit	Total Compensation	Average Compensation per Person
Registered directors (excluding outside directors and Audit Committee members)	5	1,000 KRW	2,204,045	440,809
Outside directors (excluding Audit Committee members)	-		-	-
Audit committee Members	3		90,000	30,000
Total	8		2,294,045	286,756

ESG Sustainability Management Committee

In March 2022, DS DANSUK established the ESG Sustainability Management Committee as an advisory body and holds regular meetings to review matters related to ESG management. The ESG Sustainability Management Committee enhances internal interest by involving senior managers from various departments, including the management team. It also invites external experts to gather opinions from ESG experts in specific fields as well as conduct an objective diagnosis of ESG management to help implement ESG management. The committee's main agenda includes reporting on domestic and international ESG trends, opportunities, and risk factors arising from ESG regulations; checking the ESG implementation status of each business; and reporting on ESG management activities in areas such as environmental safety and health. Furthermore, management aligns its management strategy with the direction of ESG management by implementing practical activities such as feedback on improvement tasks. DS DANSUK's ESG Sustainability Management Committee plans to expand its role in deliberating on ESG management decisions by strengthening the assistance and utilization of external experts, thereby broadening the perspective on ESG management.

ESG Sustainability Management Committee Activities

Session	Date	Agenda
1st	2022-03-24	• Report on ESG trends • 2022 ESG management plan report • ESG management status report by business unit • Expert invitation (ESG regulatory changes and corporate responses)
2nd	2022-06-29	• Report on the preparation status of the 2022 Sustainability Management Report • Global trends report "EU Fit for 55 package" • ESG implementation status report by business unit
3rd	2022-09-28	• Report on the status of the 2022 ESG management plan • Report on internal and external ESG trends • Report on the publication of the 2022 Sustainability Management Report • ESG implementation status report by business unit
4th	2022-12-28	• 2022 review and consideration of ESG self-assessment • Establishment and systematization of the 2023 committee organization • Report on mid- to-long-term ESG management strategy • ESG trends report – "EU WEEE & RoHS" • ESG implementation status report by business unit
5th	2023-03-29	• Report on governance reform plan • Report on the 2023 ESG management plan • Report on internal and external ESG trends • Report on RE100 & Smart Green Industrial Complex • ESG implementation status report for non-business departments
6th	2023-09-26	• DS DANSUK IPO & ESG evaluation • Report on the publication of the 2023 Sustainability Management Report • ESG disclosure and audit-related improvements • Report on ESG trends • ESG implementation status report by business unit
7th	2024-04-24	• Expert invitation (strategic approach to ESG management) • Report on ESG trends and internalization measures • ESG implementation status report by departments

Ethics and Compliance Management

Ethical Management System

DS DANSUK is committed to going beyond legal compliance in its business activities by promoting comprehensive ethical management to fulfill its corporate social responsibility. Since 2021, we have established policies and guidelines for ethical management, and all employees adhere to ethical pledges to practice our code of ethics. Additionally, we conduct ethics training and monitor the ethics reporting center through a dedicated organization. When ethical issues arise, we propose investigation and resolution strategies. DS DANSUK provides guidelines and norms for ethical management, covering fundamental employee work ethics, customer ethics aimed at providing the best service, shareholder and investor ethics based on transparent management, and supplier ethics focusing on fair trading procedures and the pursuit of shared values. All employees are required to comply with these standards.

DS DANSUK Ethical Management Policies

▲ Code of Ethics

▲ Guidelines

Ethical Management Vision and Strategy

Vision

Practicing sustainable management through transparent and fair governance to earn trust

Strategy

Establishing an Ethical Organizational Culture	Strengthening Compliance and Ethical Systems	Ensuring Transparency and Fairness

Action Plans

Establishing an Ethical Organizational Culture	Strengthening Compliance and Ethical Systems	Ensuring Transparency and Fairness
• Foster an ethical corporate culture and internalize ethics. • Establish a robust monitoring system. • Expand the ethical system.	• Enhance the ethical management encouragement system. • Strengthen the execution of compliance and anti-corruption management.	• Create a fair and transparent trading environment. • Improve the reliability of accounting records.

Ethical Management Roadmap

DS DANSUK is committed to establishing and embedding a foundation for ethical management by promoting ethical standards and spreading a corporate culture of ethics. Following the ethical management roadmap, we aim to activate ethical management education for all employees, ensuring that ethical decision-making becomes a natural part of daily business processes, thereby fostering everyday ethical management. We will also enhance transparency by promoting an online reporting system (Ethics Reporting Center). Since 2023, the focus has shifted to internalizing ethical management, encouraging the spread of organizational culture and voluntary practices. By 2024, we plan to strengthen the ethical management audit function by establishing and operating an audit team. Through these efforts, DS DANSUK aims to internalize ethical values in all areas of business, reinforcing trust with stakeholders and achieving long-term sustainable growth as an ethical enterprise.

Ethical Management Roadmap

~2022	2023~
Habituation of Ethical Management	**Internalization of Ethical Management**
• Establish and embed a foundation for ethical management. • Guide and inspect the practice of ethical standards. • Activate education on social responsibility. • Review internal/external evaluation tests.	• Spread organizational culture and encourage voluntary practice. • Conduct ethical management audit functions. • Promote the online reporting system. • Expand the fulfillment of social responsibility.

Strengthening the Organizational Culture of Ethical Management

Ethical standards and guidelines provide essential directives for adhering to ethical principles and implementing sustainable management practices. Through these measures, DS DANSUK fosters a transparent and fair environment within the organization, building trust with stakeholders. Specifically, in 2023, DS DANSUK implemented strategies under the ethical management roadmap by establishing an online reporting center for ethical issues, operating a dedicated ethical management team, and ensuring that all employees adhere to the ethical pledge. This reinforces the overall level of ethical management. The necessary ethical standards and guidelines for fostering an ethical corporate culture clearly define the criteria, rights, and obligations for ethical behavior for all members. They also include sanctions and training for unethical conduct. By simultaneously pursuing DS DANSUK's long-term value and social responsibility, this approach can lead to sustainable growth and the creation of greater social value.

http://dsdansuk.com/en/sustainability/ethical_management/

DS DANSUK Employee Ethical Pledge

▲ CEO Signature

▲ Employee Electronic Signature

Ethical Management Training

Since 2023, DS DANSUK has conducted ethics training for all employees to promote the practice and internalization of ethical management. By educating employees on the importance of ethical management and presenting real-world examples and case studies, DS DANSUK aims to evolve into a company that fulfills not only its economic and legal responsibilities but also its ethical duties. The training scheduled for 2024 aims to clearly convey our ethical principles and behavioral guidelines. The goal of ethical management training is to enhance employees' awareness of ethics and improve their ability to make practical ethical decisions, thereby solidifying DS DANSUK's commitment to ethical management.

The Tragedy of the Commons
- Why are we drawn to misconduct (corruption)?

Why should I do first? (Volunteer's Dilemma)
- Evolutionary psychology, 'put a bell on a cat' (altruistic person)

Inaction as an Act
- We are responsible for the actions we didn't take.
- Third-party punishment (behavioral economics)

The Correlation Between Leadership and Ethics
- Position, relationships, performance, talent development, respect
- Members first accept the leader, then the vision.

Ethical Reporting System

DS DANSUK operates an ethical reporting system through the 'Ethics Reporting Center,' allowing employees and stakeholders to anonymously report unethical or illegal activities related to business operations. A recent report submitted through the website was swiftly investigated, following rigorous procedures, and reported to the Compliance Management Director. This proactive response to reported issues underscores our commitment to strengthening ethical management, ensuring anonymity and fair investigation, and enhancing trust in the workplace. DS DANSUK recognizes the significance of such reports in bolstering corporate sustainability and social responsibility and plans to continuously improve and promote the ethical reporting system.

Ethical Reporting Process

Report Submission (Ethics Reporting Center) → Investigation of Report Content (Management Support H.Q) → Report to CEO (Compliance management) and Internal Meeting → Notification of Results and Actions to the Parties Involved


[국문] 신고 리스트

Example of an ethical report ▲

Compliance Management System

DS DANSUK adheres to societal standards and corporate ethics in its business activities and pursues transparent and fair operations. To strengthen compliance management, we established compliance control standards in 2023 and appointed a compliance officer meeting the legal qualifications through board resolution. Compliance control standards outline the compliance principles and procedures that employees must follow in their duties, ensuring their adherence to relevant laws and earning the trust of stakeholders. The compliance officer at DS DANSUK is responsible for conducting various compliance support activities based on these standards.

Compliance Governance

BOD	• Resolves important matters related to compliance control standards • Supervises whether the CEO and the company effectively operate the compliance control system
CEO	• Establishes, maintains, operates, and monitors the compliance control system as per the compliance control standards and board resolutions
Compliance Officer	• Oversees practical compliance control, including checks on adherence to compliance control standards
Legal Team	• Supports compliance throughout all company management activities

Authority and Role of the Compliance Officer

Operate compliance education and training programs	Conduct regular and ad-hoc inspections to ensure compliance with control standards
Require compliance and improvements from employees	Request sanctions against employees who violate compliance control standards
Attend and present opinions at board meetings related to compliance matters	Provide daily compliance support (advice, etc.) and assist employees with voluntary compliance checks

Compliance Management Activities

DS DANSUK is committed to spreading a culture of compliance by announcing ethical standards and guidelines, presenting behavioral norms for employees, and encouraging voluntary ethical pledges. The compliance officer proactively identifies major legal risks and provides appropriate guidance when employees engage in tasks closely related to those risks, such as contract signing. Compliance officers and legal teams are required to review contracts related to purchasing, supply, subcontracting, sales, and major external documents through internal legal processes. Identified risks are communicated to relevant departments for improvement, and standard contract templates are provided for various business areas to ensure compliance with relevant laws and regulations. Recognizing the increasing demands of stakeholders regarding corporate growth and ESG management, DS DANSUK acknowledges the need to continuously strengthen the management of compliance risks. We plan to expand the compliance support organization to enhance training, conduct inspections, evaluate the effectiveness of the compliance control system, and establish fair trade compliance guidelines.

Internal Accounting Management

DS DANSUK ensures the reliability of its financial information and manages accounting risks by operating an internal accounting control system. The internal accounting management regulations define the roles and responsibilities of the CEO, internal accounting manager, and Audit Committee. Executives regularly review the internal accounting control system and report on the operational status of the Audit Committee, Board of Directors, and general shareholders' meeting to ensure that the system is operated effectively. The Audit Committee evaluates the design and operational status of the internal accounting control system and reports to the board. By the end of 2023, DS DANSUK's internal accounting control system was evaluated to be effectively designed and operated from a materiality perspective based on the Internal Accounting Control System Design and Operational Framework. This assessment concurred with that of the external auditor. In anticipation of introducing a consolidated internal accounting control system, we are preparing to conduct preliminary evaluations on subsidiaries to ensure the reliability of internal accounting and financial information across enterprises.

Internal Accounting Control System Operation
↓
Operational Status Report (CEO and Internal Accounting Manager)
↓
Audit Committee's Operational Status Evaluation
↓
External Auditor's Adequacy Evaluation
↓
Report to General Shareholders' Meeting

Information Protection and Security

Annual Information Security Training
(December 2023)

Illegal Software Inspection
(May 2024)

Information Protection Policy and Management System

DS DANSUK has established an information protection and security framework to safeguard employees and stakeholders' personal data and manage information assets. We enhance our information protection and security capabilities by developing relevant policies and regulations, operating specialized teams, and conducting company-wide training programs. Internal regulations include IT management and personal information-processing policies. The latter is posted on our website to ensure compliance with privacy protection regulations throughout the process of personal data collection, use, and disposal by third parties. In addition, measures for accident prevention and response are outlined. The introduction of the Enterprise Content Management system aims to further upgrade the information protection management system and strengthen security policies. Continuous education and inspections are conducted to enhance awareness and responses to increasingly sophisticated security threats.

IT and Information Management Operations Organization

IT Operations/Information Management Officer	• Overall responsivility of IT and its operations (strategy and planning, systems and infrastructure, security and privacy protection)
IT Operations/Information Management Manager	• Development of IT operations strategy and planning, infrastructure setup, system security management, privacy protection management, etc.
IT Operations/Information Management Representative	• Implementation of IT operations strategy and planning, management of network and business systems, etc.

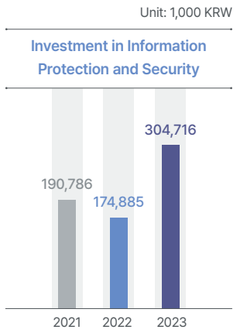
Strengthening Information Security Response

Security Response System

DS DANSUK has established a response system to prevent leakage risks of important internal information and personal data. The IT team oversees various internal information security activities to ensure practical application.

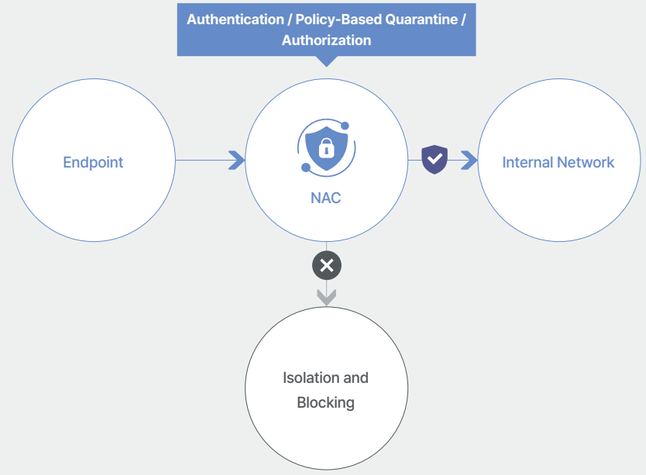
Security Inspections	Malicious Email Response System	Enhancing IT Security Infrastructure
• Conduct annual software inspections to prevent virus infections caused by unauthorized programs.	• Implement security systems such as spam mail filtering and document security to prevent infiltration and infection by malicious code and enhance security • protect the company's confidentiality, integrity, and accessivility from security threats to maintain stable operations.	• Plan to introduce a Network Access Control (NAC) solution • Prevent indiscriminate access by unauthorized users and mitigate IT security risks such as viruses.

Unit: 1,000 KRW



NAC (Network Access Control)

- Control users and devices accessing the network.
- Ensure network stability.
- Implement network management based on policies.



Information Security Training

DS DANSUK conducts annual training to enhance employees' awareness of information protection and security as well as manage the associated risks. In 2023, all employees received training on personal data protection and information security to continuously enhance their understanding and response capabilities to cyber threats.

Personal Data Protection Training	Information Security Training
Understand the concept and general principles of personal data protection.	Understand information security systems.
Familiarize with safety measures for personal data protection.	Case studies on hacking and security
Strategies to respond to security risks related to personal data protection.	Detection and response to cyber threats.

Appendix

Financial Performance

Summary of Consolidated Statement of Financial Position

Unit: 1 Million KRW

Category	2021	2022	2023
Current Assets	249,421	303,352	351,805
Non-Current Assets	252,418	262,235	367,100
Total Assets	501,839	565,587	718,904
Current Liabilities	245,906	317,923	340,137
Non-Current Liabilities	82,572	107,921	97,591
Total Liabilities	328,478	425,844	437,729
Equity Attributable to Owners of the Parent Company	168,205	139,467	277,355
Non-Controlling Interests	5,156	277	3,820
Total Equity	173,360	139,743	281,175

Summary of Consolidated Statement of Comprehensive Income

Unit: 1 Million KRW

Category	2021	2022	2023
Revenue	900,507	1,133,720	1,070,440
Cost of Sales	787,392	1,017,311	945,083
Gross Profit on Sales	113,115	116,409	125,357
Selling and Administrative Expenses	40,583	42,423	49,117
Operating Profit	72,532	73,985	76,240
Finance Income	3,881	9,317	10,869
Finance Costs	15,527	33,148	32,218
Other Non-operating Income	1,845	1,120	3,785
Other Non-operating Expenses	10,934	13,515	7,254
Net Income before Income Tax Expense	51,797	37,759	51,422
Income Tax Expense	11,976	10,577	12,261
Net Profit	39,821	27,182	39,162
Total Comprehensive Income	47,159	27,172	50,127

ESG Data

Environment

All Business Sites*

Category			Unit	2021	2022	2023
Response to climate change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	76,829.47	80,522.26	80,823.47
		Direct emissions (Scope1)	tCO_2eq	49,825.32	51,907.65	54,556.54
		Indirect emissions (Scope2)	tCO_2eq	27,004.15	28,614.60	26,266.94
		Base unit emissions[3]	tCO_2eq/Ton	0.07	0.08	0.07
		GHG reduction performance	tCO_2eq	-2,102.33	-3,692.79	-301.22
Energy Management	Total energy use	Total	TJ	1,586.31	1,637.14	1,569.62
		Base unit (energy intensity)[3]	TJ/Ton	0.0014	0.0015	0.0014
	Direct energy use	Total	TJ	766.44	782.56	761.31
		Base unit (energy intensity)[3]	TJ/Ton	0.0007	0.0007	0.0007
		LNG (fuel)	TJ	533.60	570.23	629.04
		LPG (fuel)	TJ	232.84	212.33	132.28
	Indirect energy use	Total	TJ	819.88	872.11	808.30
		Base unit (energy intensity)[3]	TJ/Ton	0.0007	0.0008	0.0007
		Electricity consumption	TJ	512.66	550.09	521.67
		Heat/steam consumption	TJ	307.21	304.49	286.64
		Energy reduction performance	TJ	-180.21	-50.83	67.52
	Carbon intensity	Total energy	tCO_2eq/TJ	265.72	272.99	275.70
		Direct energy	tCO_2eq/TJ	341.72	350.14	354.38
		Indirect energy	tCO_2eq/TJ	198.00	201.51	200.46
Environmental performance management						
Water management performance[1]	Water intake	Total	Ton	1,317,755	1,366,758	851,682
		Water service	Ton	167,814	245,907	220,797
		Industrial water	Ton	1,149,941	1,120,851	630,885
	Total amount of water discharged		Ton	961,316	822,801	496,787
	Water usage		Ton	356,439	543,957	354,895
	Wastewater generation		Ton	961,316	822,801	496,787

All Business Sites*

Category			Unit	2021	2022	2023
Environmental performance management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	5.80	3.60	4.75
	NOx emissions		Ton	27.20	28.17	22.38
	SOx emissions		Ton	3.70	1.10	3.64
Water contaminants	BOD		Ton	7.40	1.19	2.95
	COD		Ton	7.50	3.00	1.60
	T-N		Ton	6.50	4.14	3.78
	T-P		Ton	0.10	0.03	0.04
	TOC		Ton	3.20	7.20	5.66
	SS		Ton	7.80	10.10	4.94
Waste management (Allbaro system data)	Total waste generation	Total	Ton	22,879.24	23,620.03	30,241.08
		Waste recycling rate	%	51.00	51.92	39.78
		Base unit (percentage compared to production)[3]	Ton/Ton	0.023	0.023	0.028
		Recycling	Ton	11,668.18	12,262.45	12,029.06
		Incineration	Ton	1,829.00	1,550.65	4,335.14
		Landfill	Ton	9,214.22	9,806.93	13,876.88
		Neutralization	Ton	167.84	0	0
	Consignment	Recycling	Ton	6,611.78	9,134.05	8,402.80
		Incineration	Ton	1,331.60	1,106.53	1,415.70
		Landfill	Ton	47.52	70.83	128.58
	Hazardous chemical management	Consumption	Ton	96,241.70	106,177.11	123,082.54
		Number of leakage accidents	cases	0	0	0
Environmental Management						
Violation of environmental regulations[2]			cases	0	0	0
Eco-friendly investment	Facility management cost		1 Million KRW	6,505	6,247	7,971
	Facility investment cost		1 Million KRW	1,237	842	361
	Total		1 Million KRW	7,742	7,089	8,333

* Emissions from the Seoul Office and Bio Jecheon Plant are excluded, resulting in a difference from the total emissions in the GHG Assurance Statement.
1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.

Sihwa Plant

Category			Unit	2021	2022	2023
Response to climate change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	18,239.51	17,607.76	15,516.18
		Direct emissions (Scope1)	tCO_2eq	7,968.63	8,076.23	7,638.65
		Indirect emissions (Scope2)	tCO_2eq	10,270.88	9,531.53	7,877.53
		Base unit emissions[3]	tCO_2eq/Ton	0.04	0.04	0.04
		GHG reduction performance	tCO_2eq	460.29	631.75	2,091.58
Energy management	Total energy use	Total	TJ	402.70	388.26	343.54
		Base unit (energy intensity)[3]	TJ/Ton	0.0009	0.0010	0.0009
	Direct energy use	Total	TJ	146.60	157.50	148.95
		Base unit (energy intensity)[3]	TJ/Ton	0.0003	0.0004	0.0004
		LNG (fuel)	TJ	146.60	157.50	148.95
	Indirect energy use	Total	TJ	256.10	230.76	194.59
		Base unit (energy intensity)[3]	TJ/Ton	0.0005	0.0006	0.0005
		Electricity consumption	TJ	161.00	151.32	137.40
		Heat/steam consumption	TJ	95.10	79.44	57.19
		Energy reduction performance	TJ	32.10	14.44	44.72
	Carbon intensity	Total energy	tCO_2eq/TJ	45.29	45.35	45.17
		Direct energy	tCO_2eq/TJ	54.36	51.28	52.63
		Indirect energy	tCO_2eq/TJ	40.11	41.31	40.50
Environmental performance management						
Water management performance[1]	Water intake	Total	Ton	189,773	213,194	156,179
		Water service	Ton	18,339	18,392	17,878
		Industrial water	Ton	171,434	194,802	138,301
	Total amount of water discharged		Ton	55,818	61,295	46,860
	Water usage		Ton	133,955	151,899	109,319
	Wastewater generation		Ton	55,818	61,295	46,860

Sihwa Plant

Category			Unit	2021	2022	2023
Environmental performance management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	0.40	0.50	0.20
	NOx emissions		Ton	4.20	3.66	3.38
	SOx emissions		Ton	0	0.17	0.06
Water contaminants	BOD		Ton	0.40	0.40	0.15
	COD		Ton	2.20	2.60	1.60
	T-N		Ton	0.30	0.30	0.18
	TOC		Ton	1.30	1.70	0.96
	SS		Ton	0.80	0.80	0.34
Waste management (Allbaro system data)	Total waste generation	Total	Ton	4,877.60	5,528.98	4,790.96
		Waste recycling rate	%	75.45	88.53	78.84
		Base unit (percentage compared to production)[3]	Ton/Ton	0.0103	0.0138	0.0127
		Recycling	Ton	3,680.28	4,894.57	3,777.32
		Incineration	Ton	1,161.90	577.69	996.60
		Landfill	Ton	35.42	56.72	17.04
	Consignment	Recycling	Ton	3,680.28	4,894.57	3,777.32
		Incineration	Ton	1,161.90	577.69	996.60
		Landfill	Ton	35.42	56.72	17.04
	Hazardous chemical management	Consumption	Ton	14,388.70	12,369.63	13,162.32
		Number of leakage accidents	cases	0	0	0
Environmental Management						
Violation of environmental regulations[2]			cases	0	0	0
Eco-friendly investment	Facility management cost		1 Million KRW	2,797	2,474	2,987
	Facility investment cost		1 Million KRW	33	158	75
	Total		1 Million KRW	2,831	2,632	3,062

1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.

Gunsan Recycling Plant

Category			Unit	2021	2022	2023
Response to climate change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	18,734.926	21,298.909	29,116.83
		Direct emissions (Scope1)	tCO_2eq	14,448.65	16,617.243	23,154.31
		Indirect emissions (Scope2)	tCO_2eq	4,286.28	4,681.67	5,962.53
		Base unit emissions[3]	tCO_2eq/Ton	0.17	0.17	0.17
		GHG reduction performance	tCO_2eq	1,339.07	-2,563.983	-7,817.92
Energy Management	Total energy use	Total	TJ	202.53	217.08	287.60
		Base unit (energy intensity)[3]	TJ/Ton	0.0018	0.0017	0.0017
	Direct energy use	Total	TJ	112.96	119.25	163.00
		Base unit (energy intensity)[3]	TJ/Ton	0.0010	0.0009	0.0010
		LNG (fuel)	TJ	112.96	119.25	162.93
		LPG (fuel)	TJ	0	0	0.07
	Indirect energy use	Total	TJ	89.57	97.83	124.60
		Base unit (energy intensity)[3]	TJ/Ton	0.0008	0.0008	0.0007
		Electricity consumption	TJ	89.57	97.83	124.60
		Energy reduction performance[4]	TJ	16.77	-14.55	-70.51
	Carbon Intensity	Total energy	tCO_2eq/TJ	92.52	98.11	101.45
		Direct energy	tCO_2eq/TJ	127.86	139.35	142.05
		Indirect energy	tCO_2eq/TJ	47.84	47.86	47.70
Environmental Performance Management						
Water Management Performance[1]	Water intake	Total	Ton	101,945	126,137	154,066
		Water service	Ton	5,159	5,457	4,154
		Industrial water	Ton	96,786	120,680	149,912
	Total amount of water discharged		Ton	79,645	96,564	137,623
	Water usage		Ton	22,300	29,573	16,443
	Wastewater generation		Ton	79,645	96,564	137,623

Gunsan Recycling Plant

Category			Unit	2021	2022	2023
Environmental Performance Management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	3.40	2.70	3.50
	NOx emissions		Ton	14.50	13.10	6.80
	SOx emissions		Ton	3.60	0.70	3.30
Water contaminants	BOD		Ton	5.20	0.09	0.50
	COD		Ton	0.80	0.40	-
	T-N		Ton	4.50	0.50	0.80
	T-P		Ton	0.10	0	0.01
	TOC		Ton	1.90	0.30	0.80
	SS		Ton	5.60	0.50	0.60
Waste management (Allbaro system data)	Total waste generation	Total	Ton	15,726.94	14,737.40	20,282.10
		Waste recycling rate	%	37.45	30.83	17.88
		Base unit (percentage compared to production)[3]	Ton/Ton	0.14	0.12	0.12
		Recycling	Ton	5,890.50	4,543.80	3,626.26
		Incineration	Ton	501.90	457.50	2,907.59
		Landfill	Ton	9,166.70	9,736.10	13,748.30
		Neutralization	Ton	167.84	0	0
	Hazardous chemical management	Consumption	Ton	52,644.00	53,915.01	75,145.36
		Number of leakage accidents	cases	0	0	0
Environmental Management						
Violation of environmental regulations[2]			cases	0	0	0
Eco-friendly investment	Facility management cost		1 Million KRW	2,808.80	2,775.80	3,569.49
	Facility investment cost		1 Million KRW	25.80	270.30	142.71
	Total		1 Million KRW	2,834.60	3,046.10	3,712.20

1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.
4) Corrected data for the errors in last year's report.

Gunsan Fine Chemicals Plant

Category			Unit	2021	2022	2023
Response to Climate Change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	19,589.52	18,969.11	12,225.82
		Direct emissions (Scope1)	tCO_2eq	13,517.52	12,333.32	7,683.49
		Indirect emissions (Scope2)	tCO_2eq	6,072.00	6,635.78	4,542.32
		Base unit emissions[3]	tCO_2eq/Ton	1.44	0.86	0.69
		GHG reduction performance	tCO_2eq	-3,824.42	620.41	6,743.29
Energy Management	Total energy use	Total	TJ	361.72	350.99	227.12
		Base unit (energy intensity)[3]	TJ/Ton	0.0266	0.0160	0.0129
	Direct energy use	Total	TJ	232.84	212.33	132.21
		Base unit (energy intensity)[3]	TJ/Ton	0.0171	0.0097	0.0075
		LPG (fuel)	TJ	232.84	212.33	132.21
	Indirect energy use	Total	TJ	128.88	138.66	94.92
		Base unit (energy intensity)[3]	TJ/Ton	0.0095	0.0063	0.0054
		Electricity consumption	TJ	128.88	138.66	94.92
		Energy reduction performance[4]	TJ	-157.72	10.73	123.87
	Carbon intensity	Total energy	tCO_2eq/TJ	54.46	54.04	53.83
		Direct energy	tCO_2eq/TJ	58.06	58.09	58.12
		Indirect energy	tCO_2eq/TJ	47.85	47.86	47.86
Environmental performance management						
Water management performance[1]	Water intake	Total	Ton	884,497	810,390	348,647
		Water service	Ton	2,776	5,021	5,975
		Industrial water	Ton	881,721	805,369	342,672
	Total amount of water discharged		Ton	815,304	652,441	307,865
	Water usage		Ton	69,193	157,949	40,782
	Wastewater generation		Ton	815,304	652,441	307,865

Gunsan Fine Chemicals Plant

Category			Unit	2021	2022	2023
Environmental performance management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	1.40	0.28	0.41
	NOx emissions		Ton	3.00	3.71	5.08
	SOx emissions		Ton	0.100	0.080	0.003
Water contaminants	BOD		Ton	1.80	0.70	2.30
	COD		Ton	4.50	-	-
	T-N		Ton	1.70	3.34	2.80
	T-P		Ton	0	0.03	0.03
	TOC		Ton	-	5.20	3.90
	SS		Ton	1.40	8.80	4.00
Waste management (Allbaro system data)	Total waste generation	Total	Ton	1,325.52	1,375.43	861.04
		Waste recycling rate	%	86.62	80.01	71.48
		Base unit (percentage compared to production)[3]	Ton/Ton	0.0974	0.0627	0.0488
		Recycling	Ton	1,148.20	1,100.50	615.44
		Incineration	Ton	165.20	274.90	197.25
		Landfill	Ton	12.10	0	48.97
	Consignment	Recycling	Ton	1148.20	1100.50	615.44
		Incineration	Ton	165.20	274.90	197.25
		Landfill	Ton	12.10	0	48.97
	Hazardous chemical management	Consumption	Ton	8,596	16,064	12,006
		Number of leakage accidents	cases	0	0	0
Environmental management						
Violation of environmental regulations[2]			cases	0	0	0
Eco-friendly investment	Facility management cost		1 Million KRW	384	242	144
	Facility investment cost		1 Million KRW	460	413	55
	Total		1 Million KRW	844	655	199

1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.
4) Corrected data for the errors in last year's report.

Pyeongtaek Bio Plant 1

Category			Unit	2021	2022	2023
Response to climate change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	9,365.50	11,760.681	11,716.826
		Direct emissions (Scope1)	tCO_2eq	5,014.33	6,026.63	5,919.34
		Indirect emissions (Scope2)	tCO_2eq	4,351.18	5,734.05	5,797.48
		Base unit emissions[3]	tCO_2eq/Ton	0.03	0.04	0.04
		GHG reduction performance	tCO_2eq	3,962.10	-2,395.18	43.85
Energy Management	Total energy use	Total	TJ	401.94	463.66	467.28
		Base unit (energy intensity)[3]	TJ/Ton	0.0014	0.0015	0.0014
	Direct energy use	Total	TJ	98.91	118.79	116.69
		Base unit (energy intensity)[3]	TJ/Ton	0.00033	0.00038	0.00035
		LNG (fuel)	TJ	98.91	118.79	116.69
	Indirect energy use	Total	TJ	303.04	344.87	350.59
		Base unit (energy intensity)[3]	TJ/Ton	0.0010	0.0011	0.0011
		Electricity consumption	TJ	90.92	119.82	121.15
		Heat/steam consumption	TJ	212.11	225.05	229.44
		Energy reduction performance[4]	TJ	-73.74	-61.72	-3.62
	Carbon intensity	Total energy	tCO_2eq/TJ	23.31	25.36	25.07
		Direct energy	tCO_2eq/TJ	50.75	50.74	50.90
		Indirect energy	tCO_2eq/TJ	14.36	16.63	16.54
Environmental performance management						
Water management performance[1]	Water intake	Total	Ton	85,405	132,169	125,965
		Water service	Ton	85,405	132,169	125,965
	Total amount of water discharged		Ton	9,170	11,258	3,292
	Water usage		Ton	76,235	120,911	122,673
	Wastewater generation		Ton	9,170	11,258	3,292

Pyeongtaek Bio Plant 1

Category			Unit	2021	2022	2023
Environmental performance management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	0.30	0.06	0.19
	NOx emissions		Ton	1.60	2.71	2.38
	SOx emissions		Ton	0	0.15	0.28
Waste management (Allbaro system data)	Total waste generation	Total	Ton	1,239.50	1,958.45	3,589.94
		Waste recycling rate	%	76.58	88.01	93.82
		Base unit (percentage compared to production)[3]	Ton/Ton	0.004	0.006	0.011
		Recycling	Ton	949.20	1,723.58	3,368.09
		Incineration	Ton	0	240.56	233.70
		Landfill	Ton	0	14.11	62.57
	Consignment	Recycling	Ton	-	1,723.58	3,368.09
		Incineration	Ton	-	240.56	221.85
		Landfill	Ton	-	14.11	62.57
	Hazardous chemical management	Consumption	Ton	13,017.00	14,696.58	14,102.29
		Number of leakage accidents	cases	0	0	0
Environmental management						
Violation of environmental regulations[2]			cases	0	0	3
Eco-friendly investment	Facility management cost		1 Million KRW	510	712	1,077
	Facility investment cost		1 Million KRW	717	0	29
	Total		1 Million KRW	1,227	712	1,106

1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.
4) Corrected data for the errors in last year's report.

Pyeongtaek Bio Plant 2*

Category			Unit	2021	2022	2023
Response to climate change						
GHG management	GHG emission	Total GHG emissions	tCO_2eq	10,900.012	10,885.80	12,247.818
		Direct emissions (Scope1)	tCO_2eq	8,876.20	8,854.22	10,160.741
		Indirect emissions (Scope2)	tCO_2eq	2,023.81	2,031.58	2,087.08
		Base unit emissions[3]	tCO_2eq/Ton	0.07	0.07	0.07
		GHG reduction performance	tCO_2eq	165.29	14.21	-1,362.017
Energy Management	GHG emission	Total	TJ	217.42	217.15	244.09
		Base unit (energy intensity)[3]	TJ/Ton	0.0014	0.0013	0.0013
	Direct energy use	Total	TJ	175.13	174.69	200.47
		Base unit (energy intensity)[3]	TJ/Ton	0.0011	0.0011	0.0011
		LNG (fuel)	TJ	175.13	174.69	200.47
	Indirect energy use	Total	TJ	42.29	42.45	43.61
		Base unit (energy intensity)[3]	TJ/Ton	0.0003	0.0003	0.0002
		Electricity consumption	TJ	42.29	42.45	43.61
		Energy reduction performance[4]	TJ	2.38	0.27	-26.94
	Carbon Intensity	Total energy	tCO_2eq/TJ	50.14	50.13	50.18
		Direct energy	tCO_2eq/TJ	50.69	50.68	50.68
		Indirect energy	tCO_2eq/TJ	47.84	47.85	47.86
Environmental performance management						
Water management performance[1]	Water intake	Total	Ton	56,135	84,868	66,825
		Water service	Ton	56,135	84,868	66,825
	Total amount of water discharged		Ton	1,379	1,243	1,147
	Water usage		Ton	54,756	83,625	65,678
	Wastewater generation		Ton	1,379	1,243	1,147

Pyeongtaek Bio Plant 2*

Category			Unit	2021	2022	2023
Environmental performance management						
Air pollution emission management and performance	Particulate matter (PM) emissions		Ton	0.3	0.06	0.45
	NOx emissions		Ton	3.9	4.99	4.74
Waste management (Allbaro system data)	Total waste generation	Total	Ton	152.10	41.27	641.95
		Waste recycling rate	%	0	0	100
		Base unit (percentage compared to production)[3]	Ton/Ton	0.0010	0.0003	0.0035
		Recycling	Ton	0	0	641.95
	Consignment	Recycling	Ton	-	0	641.95
	Hazardous chemical management	Consumption	Ton	7,596.00	9,131.89	8,666.57
		Number of leakage accidents	cases	0	0	0
Environmental management						
Violation of environmental regulations[2]			cases	0	0	1
Eco-friendly investment	Facility management cost		1 Million KRW	5	43	194
	Facility investment cost		1 Million KRW	1	0	60
	Total		1 Million KRW	6	43	254

* Methanol scrubber newly installed
1) Water intake is based on water bills, while water discharge is based on water quality logs.
2) Data does not include environmental violations with a value of 10,000 USD or less.
3) For base units, the calculation basis changed from sales revenue to production volume.
4) Corrected data for the errors in last year's report.

Social

Employee Status

Category				Unit	2021	2022	2023
Employee Status	Employees	Total		Persons	385	373	416
		Male		Persons	344	332	368
		Female		Persons	41	41	48
		Proportion of regular employees		%	99.2	97.3	95.2
	By employment type	Management executive	Male	Persons	16	15	17
			Female	Persons	1	1	2
		Workers with an indefinite period	Male	Persons	325	312	337
			Female	Persons	40	35	40
		Fixed-term workers	Male	Persons	3	5	14
			Female	Persons	0	5	6
	Employees by position	Executive		Persons	16	16	19
		General Manager		Persons	6	6	15
		Deputy General Manager		Persons	21	23	15
		Manager		Persons	18	19	29
		Assistant Manager		Persons	45	40	35
		Staff		Persons	279	269	303
	By age	Under 30		Persons	89	66	100
		30~49		Persons	244	252	260
		50 or older		Persons	52	55	56
Remuneration	Total annual remuneration (KRW)	Total		1 Million KRW	21,533	23,331	26,098
		Male		1 Million KRW	19,881	21,481	23,738
		Female		1 Million KRW	1,652	1,850	2,360
	Average remuneration per person (KRW)	Total		1 Million KRW	40	45	49
		Male		1 Million KRW	40	46	49
		Female		1 Million KRW	37	36	45
	Percentage of base salary and compensation of female workers compared to male workers			%	92.0	77.3	90.6
	Average employee remuneration (KRW)			1 Million KRW	39.66	44.95	48.69

Employee Status

Category				Unit	2021	2022	2023
Recruitment and turnover status	By gender		Total	Persons	184	139	170
			Male	Persons	174	127	157
			Female	Persons	10	12	13
	By age		Under 30	Persons	56	47	68
			30~49	Persons	121	89	90
			50 or older	Persons	7	3	12
	Number of employee turnover (voluntary)		Total	Persons	157	155	115
	Average years of service			Years	4.5	4.5	4.1
Training Status	Employee training	Number of trainees	Total	Persons	404	547	540
		Training hours	Total training hours	Hours	3,465	5,592	7,274
			Training hours per person	Hours/Person	8.6	10.2	13.5
		Training cost	Total amount of training cost	1 Million KRW	21	24	26
			Training cost per person	1,000 KRW/ Person	52	43.5	48.4
Maternity And Parental Leave Status	Maternity leave	Persons taking maternity leave		Persons	1	0	0
	Parental leave	Persons taking parental leave		Persons	2	0	0
		Return to work from parental leave	No. of employees with min. 1 year of service	Persons	1	0	0
Diversity and Inclusion	Gender diversity	Total number of female employees	Number of persons	Persons	41	41	48
			Percentage of female employees	%	10.6	11.0	11.4
		Number of female managers	Number of persons	Persons	3	3	6
			Percentage of female managers	%	7.3	7.3	7.6
	Diversity of minority groups	Employees from minority groups	Number of persons	Persons	43	44	44
		Number of foreigner employees		Persons	31	33	33
		Number of disabled employees		Persons	12	11	11
	Organizational culture	Cyber reporting center	No. of registrations	Cases	0	0	0
		Labor-management council	Number of persons	Persons	24	24	24
			Labor-management council	Times	16	16	16
				Cases	-	-	-

Safety and Health_ Sihwa Plant

Category			Unit	2021	2022	2023
Safety and health incidents	Number of workers subject to the occupational safety and health management system		Persons	180	163	176
	Percentage of workers subject to the occupational safety and health management system		%	100	100	100
	Number of fatalities		Persons	0	0	0
	Industrial accident rate		%	0	0	0
	Safety and health investment costs		1 Million KRW	369	362	471
	Number of violations of safety and health regulations[1]		Cases	0	0	0
Safety and health training	Training hours		Hours	4,920	4,384	4,108
	Number of persons completing training		Persons	189	161	166
	Training hours per person		Hours/Person	26	27	25
Safety inspections and evaluations	Safety and health system operation status inspection[2]		Times	34	34	34
	Occupational Health and Safety Committee held		Times	4	4	4
	Joint safety and health inspection of partners		Times	4	4	4
	Workplace risk assessment		Times	1	3	12
Safety and health activities	Health checkup	General checkup	Times	3	4	2
		Cholesterol test cost support (additional)	Times	0	75	84
	Health support activities	Number of regular in-house health counseling sessions (additional)	Times	18	132	118
		Number of vaccination users (additional)	Persons	80	78	74
		Vaccination rate	%	44.4	47.9	42.0
		No. of regular consignment workers receiving health counseling (additional)	Times	43	113	154

1) Data does not include safety and health violations with a value of 10,000 USD or less.
2) The data for the inspection of the occupational health and safety system operation has been corrected to reflect only the standards assessed by third-party experts.

Safety and Health_ Gunsan Recycling Plant

Category			Unit	2021	2022	2023
Safety and health incidents	No. of workers subject to the occupational safety and health management system		Persons	66	85	94
	Percentage of workers subject to the occupational safety and health management system		%	100	100	100
	No. of fatalities		Persons	0	0	0
	Industrial accident rate		%	1.35	0	2.63
	Safety and health investment costs		1 Million KRW	166	380	549
	Number of violations of safety and health regulations[1]		Cases	0	0	0
Safety and health training	Training hours		Hours	1,852	2,517	3,877
	No. of persons completing training		Persons	62	76	108
	Training hours per person		Hours/Person	30	33	36
Safety inspections and evaluations	Safety and health system operation status inspection[2]		Times	42	42	42
	Occupational Health and Safety Committee held		Times	4	4	4
	Joint safety and health inspection of partners		Times	0	0	4
	Workplace risk assessment		Times	1	1	1
Safety and health activities	Health checkup	General checkup	Times	1	1	1
	Health support activities	No. of vaccination users (additional)	Persons	34	59	58
		Vaccination rate	%	51.5	69.4	61.7
		No. of regular consignment workers receiving health counseling (additional)	Times	38	86	103

1) Data does not include safety and health violations with a value of 10,000 USD or less.
2) The data for the inspection of the occupational health and safety system operation has been corrected to reflect only the standards assessed by third-party experts.

Safety and Health_ Gunsan Fine Chemicals Plant

Category			Unit	2021	2022	2023
Safety and health incidents	No. of workers subject to the occupational safety and health management system		Persons	62	74	81
	Percentage of workers subject to the occupational safety and health management system		%	100	100	100
	No. of fatalities		Persons	0	0	0
	Industrial accident rate		%	1.79	0	0
	Safety and health investment costs		1 Million KRW	53	122	186
	Number of violations of safety and health regulations[1]		Cases	0	0	0
Safety and health training	Training hours		Hours	1,679	2,660	2,515
	No. of persons completing training		Persons	57	90	81
	Training hours per person		Hours/Person	29	30	31
Safety inspections and evaluations	Safety and health system operation status inspection[2]		Times	42	42	42
	Occupational Health and Safety Committee held		Times	4	4	4
	Joint safety and health inspection of partners		Times	3	12	12
	Workplace risk assessment		Times	1	1	1
Safety and health activities	Health checkup	General checkup	Times	1	2	2
	Health support activities	No. of vaccination users (additional)	Persons	25	61	57
		Vaccination rate	%	40.3	82.4	70.4
		No. of regular consignment workers receiving health counseling (additional)	Times	61	64	73

1) Data does not include safety and health violations with a value of 10,000 USD or less.
2) The data for the inspection of the occupational health and safety system operation has been corrected to reflect only the standards assessed by third-party experts.

Safety and Health_ Pyeongtaek Bio Plant 1

Category			Unit	2021	2022	2023
Safety and health incidents	No. of workers subject to the occupational safety and health management system		Persons	41	35	45
	Percentage of workers subject to the occupational safety and health management system		%	100	100	100
	No. of fatalities		Persons	0	0	0
	Industrial accident rate		%	0	0	0
	Safety and health investment costs		1 Million KRW	125	106	211
	Number of violations of safety and health regulations[1]		Cases	0	0	0
Safety and health training	Training hours		Hours	2,136	1,729	2,452
	No. of persons completing training		Persons	42	42	45
	Training hours per person		Hours/Person	51	41	54
Safety inspections and evaluations	Safety and health system operation status inspection[2]		Times	30	30	30
	Occupational Health and Safety Committee held		Times	0	4	4
	Joint safety and health inspection of partners		Times	0	4	4
	Workplace risk assessment		Times	1	1	1
Safety and health activities	Health checkup	General checkup	Times	1	1	1
	Health support activities	No. of vaccination users (additional)	Persons	15	21	28
		Vaccination rate	%	36.6	60.0	62.2
		No. of regular consignment workers receiving health counseling (additional)	Times	25	39	43

1) Data does not include safety and health violations with a value of 10,000 USD or less.
2) The data for the inspection of the occupational health and safety system operation has been corrected to reflect only the standards assessed by third-party experts.

Safety and Health_ Pyeongtaek Bio Plant 2

Category			Unit	2021	2022	2023
Safety and health incidents	No. of workers subject to the occupational safety and health management system		Persons	17	15	16
	Percentage of workers subject to the occupational safety and health management system		%	100	100	100
	No. of fatalities		Persons	0	0	0
	Industrial accident rate		%	5.56	0	0
	Safety and health investment costs		1 Million KRW	39	22	54
	Number of violations of safety and health regulations[1]		Cases	0	0	0
Safety and health training	Training hours		Hours	856	874	1,012
	No. of persons completing training		Persons	17	18	16
	Training hours per person		Hours/Person	50	54	63
Safety inspections and evaluations	Safety and health system operation status inspection[2]		Times	30	30	30
	Occupational Health and Safety Committee held		Times	0	4	4
	Workplace risk assessment		Times	1	1	1
Safety and health activities	Health checkup	General checkup	Times	1	1	1
	Health support activities	No. of vaccination users (additional)	Persons	11	3	5
		Vaccination rate	%	64.7	20.0	31.3
		No. of regular consignment workers receiving health counseling (additional)	Times	10	13	17

1) Data does not include safety and health violations with a value of 10,000 USD or less.
2) The data for the inspection of the occupational health and safety system operation has been corrected to reflect only the standards assessed by third-party experts.

Partners and Supply Chain

Category				Unit	2021	2022	2023
Partners status	Partners	Number of partners		No. of companies	299	288	279
		Major partners	Transaction amount over 10 Billion KRW	No. of companies	23	30	26
		Total purchase cost		1 Million KRW	744,900	908,979	848,854

Local Communities and Social Contribution

Category			Unit	2021	2022	2023
Social Contribution	Social contribution activities	Donations	1 Million KRW	68.76	259.71	268.87
	Dansuk Scholarship Foundation	Number of scholarship students	Persons	40	18	17
		Scholarship	1 Million KRW	71.3	48.5	46.5

Governance

Board of Directors

Category			Unit	2021	2022	2023
Board of Directors	Board of directors operation status	No. of board meetings held	Times	14	13	21
		Agenda resolved	Cases	47	43	60
		Inside director attendance	%	94	86	86
		Outside director attendance	%	-	-	80
	ESG Sustainable Management Committee	No. of meetings held	Times	0	4	2

Shareholders

(As of December 31, 2023)

Category		Number of shares owned	Percentage
Shareholders with 5% and above	Seung-uk Han	2,136,042	36.44
	Stonebridge Eco Private Equity Fund I	1,090,000	18.60

Ethical Mangement

Category				Unit	2021	2022	2023
Ethics policy	Number of employees being notified ethics policy by position			Persons	-	373	416
	Percentage of employees being notified ethics policy by position			%	-	100	100
Ethical management status	Number of ethics violations and measures taken	Number of incidents of code of ethics/ethics policy violations		Cases	-	0	0
		Number of corruption cases		Cases	-	0	0
		Number of cases in which workers have been fired or disciplined for corruption		Cases	-	0	0
	Legal violations	Number of violation cases of laws and regulations	Number of violation cases	%	-	0	0
			Number of violation cases (cases of fine)	Cases	-	0	0
			Number of violation cases (cases of non-financial sanctions)	Cases	-	0	0
		Fines for violation of laws and regulations		1 Million KRW	-	0	0

GRI Index

Statement of use	DS Dansuk is reporting its sustainability management activities in accordance with the GRI Standards, covering the period from January 1, 2023, to December 31, 2023 (with some data extending to the first half of 2024).
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	As of the publication date, the relevant industry standard for DS Dansuk's major sectors has not been released, and therefore, it has not been applied.

Index	No	Disclosure	Pages	Remarks
GRI 2: General Disclosure				
Organizational profile and reporting principles	2-1	Organizational details	8-11	
	2-2	Entities included in the organization's sustainability reporting	2	
	2-3	Reporting period, frequency and contact point	2	
	2-4	Restatements of information	38, 51, 111-122, 125-127	Footnotes for the updated data are provided at the bottom of each table.
	2-5	External assurance	2, 143-145	
Activities and Workers	2-6	Activities, value chain, and other business relationships	8, 12-19	
	2-7	Employees	8, 123-124	Refer to the business report: Status of Executives and Employees, pages 215-218
	2-8	Workers who are not employees		Refer to the business report: Status of Executives and Employees, pages 215-218
Governance	2-9	Governance structure and composition	96-101	
	2-10	Nomination and selection of the highest governance body	97	Refer to the business report: Committees in BOD 199-201
	2-11	Chair of the highest governance body	97, 99	
	2-12	Role of the highest governance body in overseeing the management of impacts	23, 101	
	2-13	Delegation of responsibility for managing impacts	22-23, 25-27, 101	
	2-14	Role of the highest governance body in sustainability reporting	22-23, 25-28, 101	
	2-15	Conflicts of interest	97-99	Refer to the business report: Shareholding Status of Major Shareholders and Related Parties 212
	2-16	Communication of material topics	25-27	
	2-17	Collective knowledge of the highest governance body	98	
	2-18	Evaluation of the performance of the highest governance body	98	
	2-19	Remuneration policies	100	Refer to the business report: Remuneration of Executives 218-220
	2-20	Process to determine remuneration	100	
	2-21	Annual total compensation ratio	123	

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	2-27	Compliance with laws and regulations	111-122, 125-127	Refer to the business report: Matters related to sanctions and penalties 226-227
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	2-30	Collective bargaining agreements	85	
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GRI 3: Material Topics 2021	3-1	Process to determine material topics	28	
	3-2	List of material topics	28	
	3-3	Management of material topics	29, 32-33, 42-43, 56-57	
Response to climate change/Management of GHG and Energy				
GRI 3: Material Topcis 2021	3-3	Management of material topics	32-33	
GRI 305: Emissions (2016)	305-1	Direct GHG emission(Scope 1)	111-122	
	305-2	Energy indirect GHG emission(Scope 2)	111-122	
	305-4	GHG emissions intensity	111-122	
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GRI 302: Energy (2016)	302-1	Energy consumption within the organization	111-122	
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GRI 404: Training and education (2016)	404-1	Average hours of training per year per employee	124	
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	417-2	Incidents of non-compliance concerning product and service information and labeling		Refer to the business report: Matters related to sanctions and penalties 226-227
	417-3	Incidents of non-compliance concerning marketing communications		
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data		

ESRS (European Sustainability Reporting Standards) Index

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1) Calculated based on production volume

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ESRS S1-3	Channels for own workers and workers' representatives to raise concerns	104
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	Number of strikes, number of lost workdays due to strikes, actions and negotiations for resolving strikes	-
ESRS S1-9	Gender wage gap in average hourly wage, ratio of women's wages to men's wages	123
	Number of employees eligible for family care leave (including maternity and parental leave), number of leave users, retention rate after returning from leave	124
ESRS S1-10	Methodology for calculating fair wages, percentage of employees receiving wages below the fair wage	-
ESRS S1-11[1]	Percentage of employees not covered by government and organizational social security programs	123-124
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ESRS S1-13	Percentage of employees receiving performance evaluations and career development reviews	123
	Average training hours and training costs per employee	124
ESRS S1-14	Percentage of employees covered by occupational health and safety management systems (self-assessed, third-party reviewed, third-party certified)	125-127
	Number of injuries and illnesses, injury rate, illness rate, number of lost workdays	125-127
ESRS S1-15	Work-life balance indicators	-
ESRS S1-16[2]	Ratio of median employee salary to the highest-paid individual's salary	123
ESRS S1-17	Number of risks and actions anticipated to negatively impact employees' labor and human rights	-
	Number of labor and human rights-related reports received, investigated, addressed, and prevention plans established	128

1) Refer to the business report 217-218
2) Refer to the business report 218-220

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ESRS S3. Affected Communities

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ESRS S3-4	Taking action on material impacts on affected communities, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions	36-41, 70, 72-74, 78, 94-95
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ESRS S4-4	Taking action on material impacts on consumers and end-users and approaches to mitigating material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	93
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ESRS G1-1	Declarations of ethical management, responsibilities, and roles of the highest decision-making body regarding management and supervision	102
	Requirements of the code of ethics and practical guidelines	103
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	ESG risk assessment and due diligence for suppliers, reflecting the assessment and due diligence results in supplier selection criteria	88-89
ESRS G1-3	Activities for eradicating and preventing unethical behavior, investigation, and internal reporting systems	104-105
	Activities for eradicating and preventing unfair trade, investigation, and internal reporting systems	104-105
ESRS G1-4	Number of confirmed unethical behavior cases, number of cases investigated by judicial authorities, number of employees subject to disciplinary action	128
	Number of confirmed unfair trade cases, number of cases investigated by judicial authorities, number of employees subject to disciplinary action	128
ESRS G1-5[1)]	Amount of political contributions by party, campaign, or other political organizations, purposes of contributions, and related activities	-
ESRS G1-6	Average payment period for supplier transactions, organizational policy on the average payment period	-

1) DS DANSUK do not engage in political donation due to domestic law.

SASB Index

DS DANSUK belongs to the biofuels industry among the industry classifications according to SASB (Sustainability Accounting Standards Board)'s sustainability accounting standards. The disclosures have been made according to the disclosure items required by the accounting standards of the relevant industry, and information for each code is disclosed.

Topic	Code	Description of the metric	Pages	Remarks
Air Quality	RR_BI_120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (4) and (5) hazardous air pollutants (HAPs)	111-122	
	RR_BI_120a.2	Number of incidents of non-compliance associated with air quality permits, standards, and regulations	111-122	Refer to the business report: Matters related to sanctions and penalties 226-227
Water Management in Manufacturing	RR_BI_140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	73-74, 111-122	Refer to the business report: Matters related to sanctions and penalties 226-227
	RR_BI_140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	73-74	
	RR_BI_140a.3	Number of incidents of non-compliance associated with water quality permits, standards and regulations	111-122	
Lifecycle Emissions Balance	RR_BI_410a.1	Lifecycle greenhouse gas (GHG) emissions, by biofuel type	51	
Sourcing & Environmental Impacts of Feedstock Production	RR_BI_430a.1	Discussion of strategy to manage risks associated with environmental impacts of feedstock production	68-79, 32-41	
Management of the Legal & Regulatory Environment	RR_BI_530a.2	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	25-27, 29	

Index	Code	Pages	Remarks
Biofuel production capacity	RR-BI-000.A	12-15	
Amount of feedstock consumed in production	RR-BI-000.C	51	

TCFD Index

Category	TCFD Recommendation	Pages
Governance	a) Describe the board's oversight of climate-related risks and opportunities	32-34
	b) Describe management's role in assessing and managing climate-related risks and opportunities	
Strategy	a) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	35-36
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	35-37
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	
Risk management	a) Describe the organization's processes for identifying and assessing climate-related risks	35
	b) Describe the organization's processes for managing climate-related risks	
Metrics and targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	32-33
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	36-41
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	

UN SDGs

DS DANSUK commits to fulfill the international promise of the Sustainable Development Goals (SDGs), which consist of 17 goals and 169 targets aimed at addressing global economic, environmental, and social issues to achieve sustainable development. We are currently aligning our corporate goals and activities with 12 of these SDGs to create tangible social value. Moving forward, we plan to expand our scope of activities to contribute to even more of these goals.

Goal	Principle	Content	Pages
Goal 3	Ensure healthy lives and promote well-being for all at all ages	DS Story 1, DS Story 3, ESG Performance_Social	40, 56-65, 87, 123-124
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	ESG Performance_Social	84, 87, 94-95, 127
Goal 5	Achieve gender equality and empower all women and girls	ESG Performance_ Social	123-124
Goal 6	Ensure availability and sustainable management of water and sanitation for all	ESG Performance_Environment	73-74, 111-122
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	DS Story 1, DS Story 2, ESG Performance_ Environment	32-55, 78
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	DS Story 3, ESG Performance_ Social	56-65, 80-95
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable	DS Story 1	40-41
Goal 12	Ensure sustainable consumption and production patterns	DS Story 2, ESG Performance_ Environment	42-55, 68-79
Goal 13	Take urgent action to combat climate change and its impacts	DS Story 1, ESG Performance_ Environment	32-41
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	ESG Performance_ Environment	73-74
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	DS Story 2, ESG Performance_ Environment	68-79
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	ESG Performance_ Social, ESG Performance_ Governance	81-82, 96-107, 123-124

UNGC

DS DANSUK joined the UN Global Compact in June 2024, committing to the 10 principles across four areas: environment, labor, human rights, and anti-corruption. DS DANSUK diligently fulfills its corporate social responsibilities, integrating them into its sustainable management strategy to strive for a better future.

Area	Principle	Pages
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights; and	81-82
	2. make sure that they are not complicit in human rights abuses	
Labour	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	85
	4. the elimination of all forms of forced and compulsory labour;	83
	5. the effective abolition of child labour; and	
	6. the elimination of discrimination in respect of employment and occupation.	83-84
Environment	7. Businesses should support a precautionary approach to environmental challenges;	35, 38, 68-79
	8. undertake initiatives to promote greater environmental responsibility; and	32-41
	9. encourage the development and diffusion of environmentally friendly technologies.	42-55
Anti-Corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery.	102-105

Awards and Memberships

Awards

* Awards since 2000

Name of the awards	Awarding body	Date
Citation for contributing to national industrial development through productivity improvement	Ministry of Trade, industry and Energy	2000. 05
Designation as a “new technology development venture company”	Gyeonggi Regional SMEs and Startups office	2001. 05
Selected as an “excellent technology company”	Korea Technology Finance Corporation	2001. 12
Confirmed as a specialized company for partsand materials	Ministry of Commerce, Industry and Energy	2002. 11
Citation for eradicating illegal petroleum products/establishing order in the supply chain for the oil market	Ministry of Commerce, Industry and Energy	2007. 10
Gold Award in the environmental safety sector at the Korea Green Energy Awards	KPETRO Korea Green Energy Awards organizing committee	2009. 10
Citation for contributing to the conservation of the natural environment	Ministry of Environment	2011. 01
Citation as a prestigious heritage company, and for improving the status of small and medium-sized companies	KBIZ Federation of SMEs	2011. 05
Awarded the 50 Million Dollar Export Tower	Ministry of Trade, industry and Energy	2011. 11
Order of Industrial Service Merit (Silver Tower): Honest tax payment	Ministry of Economy and Finance	2012. 03
Awarded the 70 Million Dollar Export Tower	Ministry of Trade, industry and Energy	2012. 12
Awarded the Trader of the Year Award	Korea International Trade Association	2013. 10
Awarded the 100 Million Dollar Export Tower	Ministry of Trade, industry and Energy	2013. 12
Awarded the Academic Technology Award at the Korea Environmental Energy Awards	Korea Energy Society	2018. 11
Awarded the 200 Million Dollar Export Tower	Ministry of Trade, industry and Energy	2020.12
Awarded the 300 Million Dollar Export Tower	Ministry of Trade, industry and Energy	2022.12
Awarded Green Management Award at the 22nd Global Standard Management Awards	Korea Management Registrar (KMR)	2023. 11

Memberships

Associations		
Shiheung Chamber of Commerce and Industry	Sihwa Fashion Color Business Cooperative	Ministry of Justice Youth Crime Prevention Committee Gunsan/Iksan Regional Council
ISCC Association (ISCC e.V.)	Korea Chemical Management Association	Gunsan Business Environment Council
Korea Resource Recycling Society	Representative Council of Chemical Handling Business Sites	Jeonbuk Environmental Engineers Association
Korea Regeneration Association	Ansan Siheung Environmental Engineers Association	Jeonbuk Environmental Preservation Association
Korea Copper Industrial Cooperative	Korea Waste Recycling Mutual Aid Association	Korea International Trade Association
Korea Nonferrous Metal Association	Korea Packaging Recycling Business Mutual Aid Association	Gunsan Fire Industry Association
Korea Specialty Chemical Industry Association	Gyeonggi Process Safety Management Council	Korea Electric Technology Association
3D Printing Research Association	Korea Fire Safety Institute	Korea Exchange
Jeonbuk Association of Freight Truck Transport Businesses	Korea Energy Engineers Association	Korea Energy Society
Jeonbuk Association of Freight Truck Transport Brokerage Businesses	Poseung Management Council	Korea Listed Companies Association
Gyeonggi-do Environmental Conservation Association	Gunsan Industrial Complex Development Council	Korea Bioenergy Association

Certifications

DS DANSUK actively exports biofuels (such as bio diesel) based on proactive certification acquisition and a systematic maintenance system. This process requires proving the traceability of raw materials (Point of Origin) for each certified item and continuous management (sustainability) throughout the entire process from raw material procurement to export. Additionally, by calculating and reporting the greenhouse gas emissions of the product’s entire life cycle using recognized emission factors, DS DANSUK ultimately receives certification as an eco-friendly product. We proactively established capabilities to systematically manage and maintain the certification system through the operation of specialized departments. Furthermore, by monitoring changing policies and regulations in various countries and engaging in extensive communication with key organizations such as the US EPA and EU-ISCC, DS DANSUK is leading the biofuel export market.

Certification	Object (Complete or Goods)	Business Site (Acquisition Year)	Organization
US EPA registration	Waste/Fat/Grease, Soybean oil	Sihwa Plant (2012~)	U.S. Environmental Protection Agency (EPA)
	Waste/Fat/Grease	Pyeongtaek Bio 1, 2 (2018~)	
	Soybean oil	Jecheon Bio Plant (2018~)	
California LCFS registration	Domestic Animal fats, UCO	Sihwa Plant (2014~)	California Air Resources Board (CARB)
	Domestic UCO	Pyeongtaek Bio 2 (2019~)	
Oregon CFP registration	Domestic Animal fats, UCO	Sihwa Plant (2018~)	Oregon Department of Environmental Quality (DEQ)
	Domestic UCO	Pyeongtaek Bio 2 (2020~)	
EU ISCC certification (Bio diesel plant, Refinery)	Bio Diesel, Bio Marine Fuel, Esterified fatty acids, Residue of FAME end distillation	Sihwa Plant (2012~) Pyeongtaek Bio 1 (2019~) Pyeongtaek Bio 2 (2017~)	European Commission EU ISCC Association
EU ISCC certification (Trader with storage)	UCO, Food Waste, POME, SBEO	Sihwa Plant (2017~) Pyeongtaek Bio 1 (2019~) Pyeongtaek Bio 2 (2017~)	
EU ISCC certification (Collecting point)	UCO	Sihwa Plant (2020~)	
EU ISCC certification (Point of origin)	Residue of FAME end distillation, Crude Glycerin	Sihwa Plant (2021~) Pyeongtaek Bio 1 (2021~) Pyeongtaek Bio 2 (2021~)	
ISCC CORSIA PLUS certification (Collection point)	MSW, PFAD, Tallow, UCO, Refined oil, Fatty acid	Sihwa Plant (2023~) Pyeongtaek Bio 1 (2023~)	ISCC Association ICAO Council
ISCC CORSIA PLUS certification (Treatment plant for waste/ residues)			
ISCC CORSIA PLUS certification (Biorefinery)			
ISCC CORSIA PLUS certification (SCOPE Trader with storage)			

Certification	Object (Complete or Goods)	Business Site (Acquisition Year)	Organization
Italian INS certification (Waste Producer)	Residue of FAME	Sihwa Plant (2024~) Pyeongtaek Bio 1 (2024~)	Italy GSE (Energy service management)
Italian INS certification (Producer of by-product)	Crude Glycerin		
Italian INS certification (Producer of Bio diesel / intermediate product)	Food waste, POME, SBEO		
Italian INS certification (Trader with/without storage)	Vegetable oils, Wastes, Residues and by-products, Intermediate products, Biofuels		
EU ISCC-PLUS certification (Scope Point of origin)	Mixed plastic waste	Gunsan Recycling Plant (2021~)	European Commission EU ISCC Association
EU ISCC-PLUS certification (Plastic Waste collector)			
EU ISCC-PLUS certification (Trader with storage)		Sihwa Plant (2021~) Gunsan Recycling Plant (2021~)	
EU ISCC-PLUS certification (Plastic Waste)	Circular PP, Circular PE, Circular PVC	DS Advanced Materials (2021~)	
EU ISCC-PLUS certification (Compounding plant)			
EU ISCC-PLUS certification (Trader with storage)			

GHG Verification Statement

Verification Scope

Korean Standards Association has conducted verification for GHG emissions based on GHG report provided by DS DANSUK Co., Ltd. which includes Scope1 and Scope2 emissions.

Verification Standards and Guidelines

To conduct verification activities, verification team applied verification standards and guidelines. The standards and guidelines are as follows.

- Guidance for reporting and verification of GHG emissions trading scheme(No. 2023-221 provided by Ministry of Environment, Republic of Korea)
- Verification Guidelines for the Operation of the Greenhouse Gas Emission Trading System(No. 2021-112 provided by Ministry of Environment, Republic of Korea)
- For matters not specified in other guidelines, refer to 2006 IPCC Guidelines, KS I ISO 14064-1: 2018 and KS I ISO 14064-3: 2019

Level of Assurance

DS DANSUK Co., Ltd.'s GHG emissions satisfies the under Reasonable Assurance(less than ±5.0% of total emissions).

Verification Conclusion

As a result of verification activities, verification team has found no significant errors, omissions, and misstatements. Therefore, Korean Standards Association confirms that following emissions data are adequately quantified.

•2023 Emissions(Scope1, Scope2)

Unit : tCO_2eq

Year	Scope 1	Scope 2	Total
2023	54,556.536	26,297.845	80,850

※ Decimal place is not considered when calculating the emission of each workplace.

June 18, 2024

KOREAN STANDARDS ASSOCIATION

Independent Assurance Statement

Control Union Sdn. Bhd. (hereafter, Control Union) was commissioned by DS DANSUK Co., Ltd. (hereafter, DS DANSUK) to conduct an independent assurance of the '2024 DS DANSUK Sustainability Report (hereafter, the report)'. The information in the report is the exclusive responsibility of DS DANSUK. Control Union was not involved in the preparation of any material included in this document. The responsibility of Control Union is to express an opinion concerning the information including graphs, tables and statements included in the report, within the assurance scope mentioned below, with the purpose of informing all the interested parties.

Assurance Scope

The assurance engagement has been planned and performed in accordance with AA1000AS v3 and the assurance criteria below to a "Moderate level of assurance" where the scope was Type 1 and 2 engagement. The report is developed using the Global Reporting Initiative (GRI) standards. The assurance process involves evaluation of adherence to the AA1000 Accountability Principles of Inclusivity, Materiality, Responsiveness and Impact. Confirming that the report is in accordance with GRI Standards and evaluating the accuracy and reliability of data and information for only the indicators listed below:

- GRI 1: Foundation 2021
- GRI 2: General Disclosures 2021
- GRI 3: Material Topics 2021
- Economic Performance: GRI 201-2~4
- Indirect Economic Performance: GRI 203-1
- Anti-Corruption: GRI 205-1~3 (Type 2)
- Materials: GRI 301-1~2
- Energy: GRI 302-1, 3~5(Type 2)
- Water and Effluent: GRI 303-1~5 (Type 2)
- Biodiversity: GRI 304-1~2, 4
- Emissions: GRI 305-1~2, 4~5, 7(Type 2)
- Waste: GRI 306-1~5(Type 2)
- Employment: GRI 401-1~3
- Labor and Management Relations: GRI 402-1
- Occupational Health and Safety: GRI 403-1~10(Type 2)
- Training and Education: GRI 404-1~3
- Diversity and Equal Opportunity: GRI 405-1~2
- Non-discrimination: GRI 406-1
- Local Community: GRI 413-1~2
- Supplier Social Assessment: GRI 414-1
- Customer Health and Safety: GRI 416-1~2
- Marketing and Labeling: GRI 417-1~3
- Customer Privacy: GRI 418-1

INCLUSIVITY

Engagement with stakeholders in the report development process and their involvement in organizational decision making.

DS DANSUK has defined the stakeholders by dividing them into executives and employees, shareholders, investors, consumers, partner companies, local society/NGO, government/municipal government/initiatives and reflects their opinions in decision-making. The verification team did not find any important stakeholder groups excluded from the process of communicating with stakeholders.

MATERIALITY

Identification of issues in the report that are relevant and significant to the organization's stakeholders, the presence of and the extent to which these material issues are disclosed in the report.

DS DANSUK identified the material issues using the stakeholder communication channel and their own materiality assessment process. The material issues identified were separately described in the report, and the verification team did not find any material issues excluded from this process and the core issue pool.

RESPONSIVENESS

Acting on stakeholder issues and provision of feedback through decisions, actions, performance and communication.

In order to establish an ESG-friendly management system, DS DANSUK has established a system that allows transparent communication with stakeholders by connecting and expanding the distributed activity values of each ESG field to the ESG management platform. It was also confirmed that DS DANSUK was communicating with various stakeholders through corporate value reflecting non-financial performance.

IMPACT

Monitoring, measurement and providing accountability for how the actions of the organization affect the economy, the environment, society, stakeholders or the organization itself.

DS DANSUK conducted surveys to identify material issues and to communicate with stakeholders continuously. Additionally, DS DANSUK performed monitoring for their impact on material topics. As a result, it was confirmed that DS DANSUK is making efforts to have a positive impact on the local community.

Level of Assurance

The level of verification is determined by the amount and scope of data collected and the depth of information used by the verification provider to check and identify any material errors, omissions or distortions.

The verification level of the DS DANSUK report is Moderate Level, and the verification types are Type 1, which confirms compliance with the AA1000AS verification principles, and Type 2, which verifies the reliability and quality of the information disclosed in the report, and is selectively applied in accordance with GRI subject standards.

Methodology

- Review of internal and external documentary evidence presented by DS DANSUK
- Review of approach to data collection at company level
- (Type 2) Audit of data presented in the Report including a detailed review of a sample of data
- (Type 2) Comparison of disclosure data with verification process results and interview of key ESG-related personnel

Independence and quality control

Control Union is an independent certification and verification company with 100 years of history, with expertise in the field of sustainable product certification such as energy, textiles, food, and cosmetics, cargo verification, industrial inspection verification, and system certification such as quality, safety, and environment. Control Union's services comply with ISO/IEC17021:2015 and ISO/IEC 17065:2012, and in particular, sustainability report verification auditors not only comply with internal quality management standards and procedures, but also meet the qualifications required by AA1000AS. In particular, the verification organization and verification auditors participating in verification are operated as independent organizations to ensure that independence is strictly maintained and managed transparently.

Conclusions

Based on the results of our moderate assurance process, nothing has come to our attention that causes us to believe that the scope (subject matter) as detailed above and presented in the report is not presented fairly in accordance with the criteria.

Hence, our work confirms that the information included in the report is reliable and objective and is presented clearly and understandably.

We provide the following recommendations to the extent that it does not affect the results of the assurance:

- DS DANSUK is one of the largest companies specializing in eco-friendly energy and materials that engages in a bioenergy, battery, and plastic recycle businesses, and is leading the way in business innovation based on the circular economy. In particular, we are contributing to overcoming the global climate crisis through resource circulation technology that utilizes waste resources or various industrial by-products and the capabilities we have accumulated. In the process of verifying the report, it was confirmed that issues such as response to climate change, greenhouse gas and energy source management, resource circulation, air pollution, occupational safety and health, and research and development are sufficiently important. It was also confirmed, as bioenergy, battery and plastic recycling company in Korea, that it is strengthening community-based social contribution activities.
- However, The '2024 DS DANSUK Sustainability Report' is the fourth sustainability report. It has been confirmed that DS DANSUK has a system in place to resolve key ESG issues with the ESG Sustainability Management Committee and the Board of Directors and to operate a related working-level consultative body. In order to respond to ESG-related performance reporting issues that will be emphasized more in the future, the system for operating the ESG Sustainability Management Committee and Board of Directors needs to be improved and advanced. In order to internalize and advance the sustainability management system, we recommend setting specific sustainability KPIs and clarifying goals.

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DS DANSUK

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